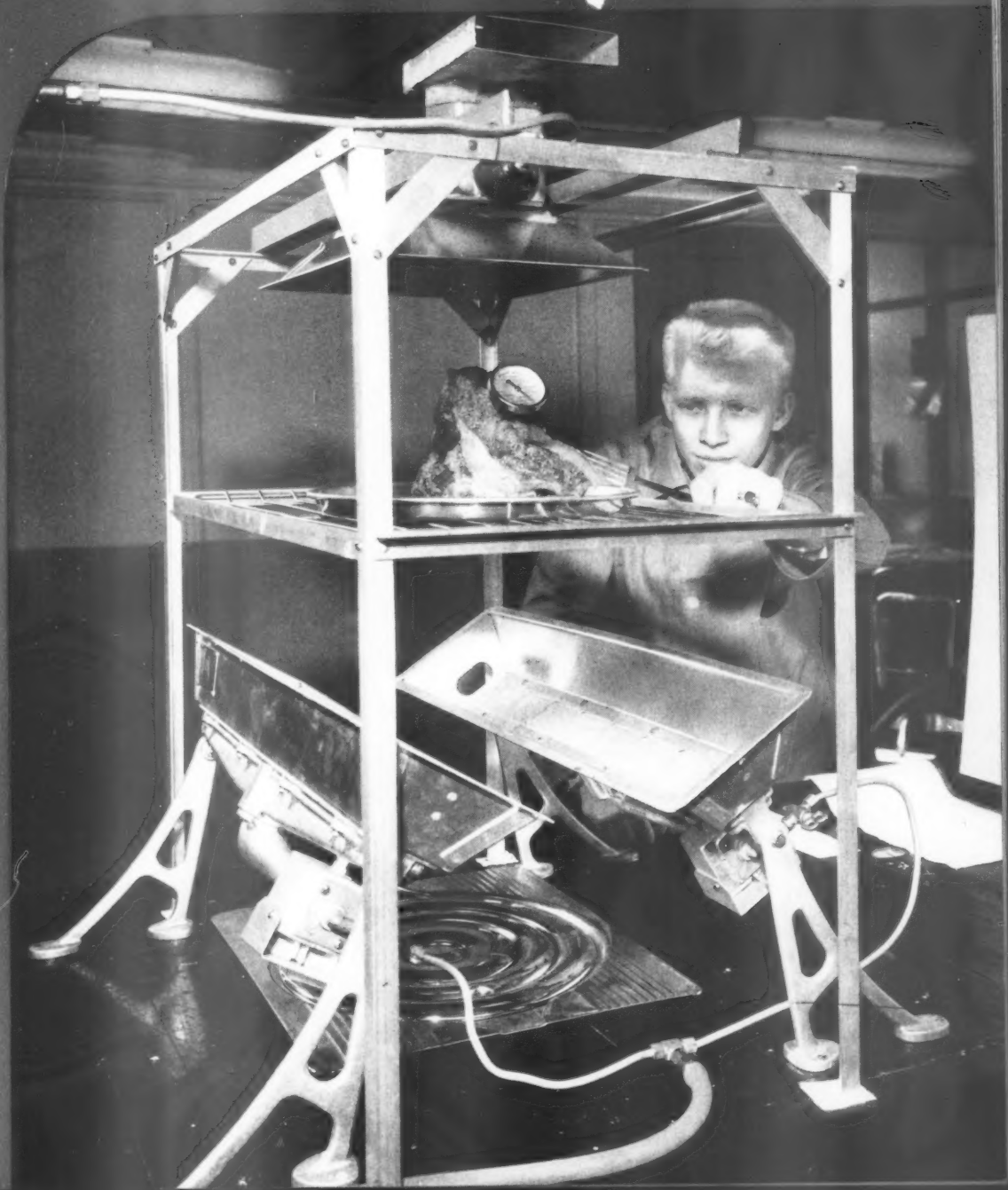
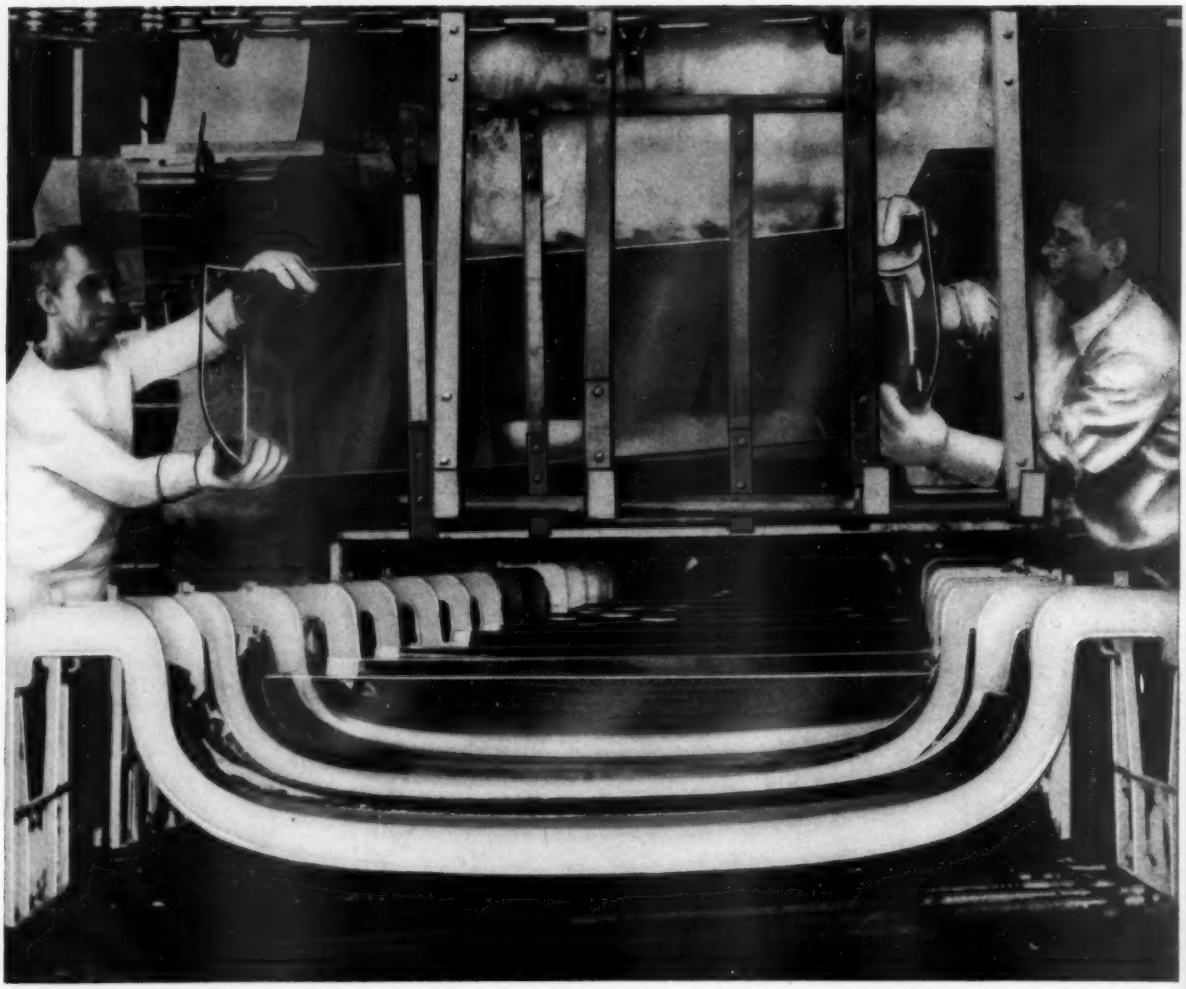
AMERICAN GAS ASSOCIATION

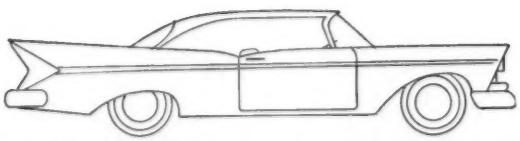
Monthly



JANUARY
1958



Greater visibility, trimmer lines in new car styling... thanks to GAS



With nearly 7,000,000 cars being produced annually, the increased use of glass has demanded major production improvements in the manufacture of new panoramic windshields and back-lights.

Since the forming of the intricately curved glass is done at a temperature at which glass is soft and can be bent, the production process challenged heat process engineers to design new automatic equipment capable of mass producing these large precision glass pieces.

Selas engineers, working with the nation's leading glass manufacturer, discovered that Gas could produce the proper time-temperature cycle demanded by this process, efficiently, quickly, reliably. The flat glass is conveyed under radiant Gas burners which bring the glass quickly up to bending temperature and allow the shaping of windshields, with reproducible uniformity, at high production rates.

The production of this wrap-around windshield is another example of the contributions modern Gas equipment is making to American manufacturing. If you have an operation demanding precise process heating, call your local Gas Company's Industrial Specialist and discuss the economies and results you, too, can get with modern Gas equipment. *American Gas Association.*

See Playhouse 90 with Julia Meade on CBS-TV. Watch local listings for time and station. Sponsored by your Gas Company and the Gas Industry.

Initial research on applying radiant heat to domestic gas ovens

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IN December, the MONTHLY staff resolved that in 1958 every effort would be made to publish a magazine of interest to all gas men. To achieve that goal in this issue, we ignored our usual deadline in order to bring you three timely features that normally (due to publication time) would not have been available. . . . One article (page 6) tells of the Zinder Report, an answer to the long-felt need for authoritative criteria for estimating gas and electricity required in multiple housing. . . . And on page 9, I. E. Rowe, director of utilization, United Gas Corp., tells how to sell gas for Capehart housing—that part of the nation's building program which makes the military services the nation's most concentrated, single market for appliance sales. . . . On page 22 is a report on the Memphis case, an address given by FPC Chairman Jerome K. Kuykendall Jan. 3 before the New York Society of Security Analysts. . . . In addition, you'll find more than space allows us to describe here. . . . For instance, there's A. G. A. President Robert W. Otto's year-end report on page 2 which tells of the gas industry's current strong position and its plans for future building, an account of the appliance outlook by GAMA President C. V. Coons (page 11), and a review of the LP-Gas industry (page 15).

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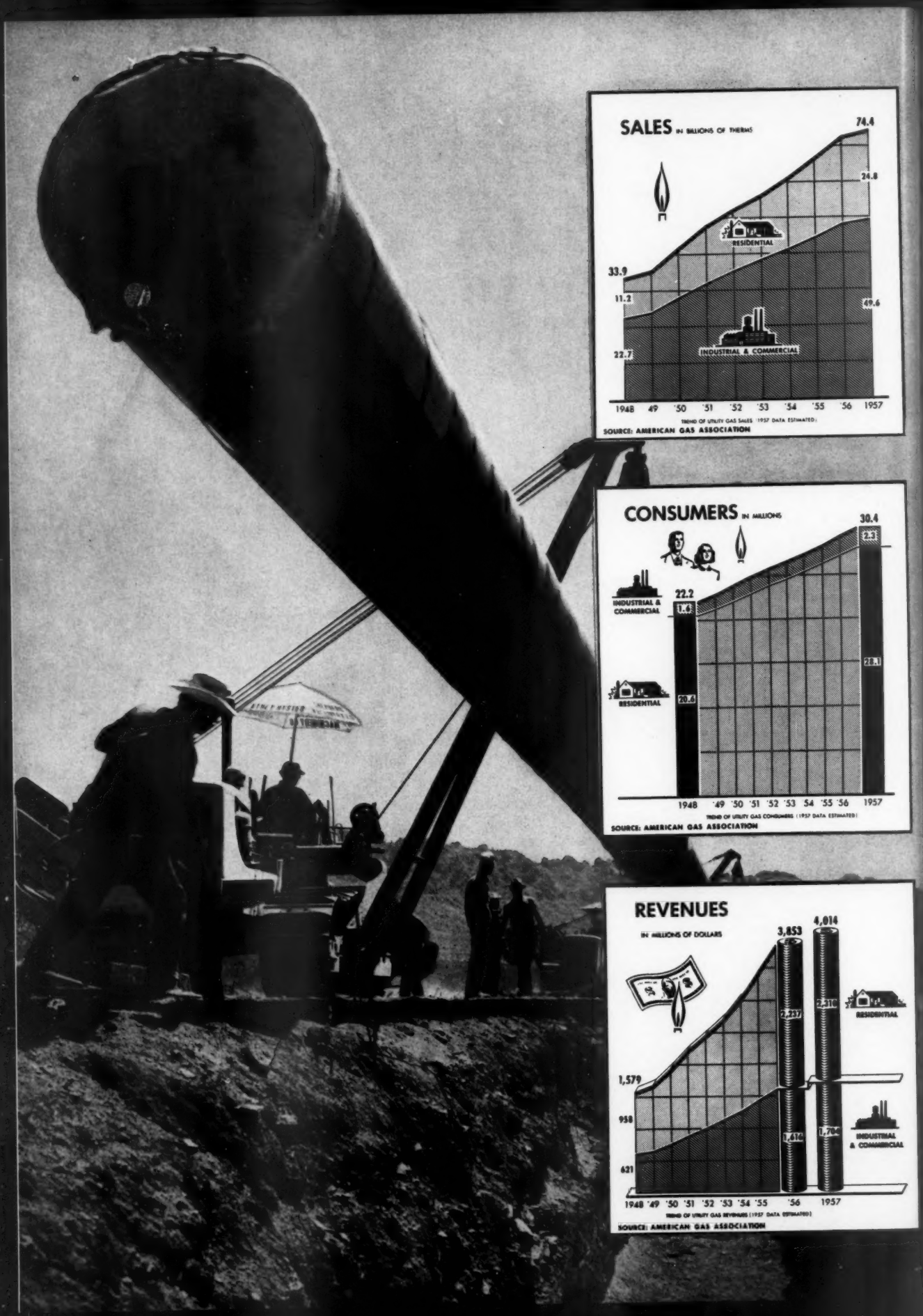

SALES IN BILLIONS OF THERMS
74.4
24.8
RESIDENTIAL
33.9
11.2
49.6
22.7
INDUSTRIAL & COMMERCIAL
1948 '49 '50 '51 '52 '53 '54 '55 '56 1957
TREND OF UTILITY GAS SALES (1957 DATA ESTIMATED)
SOURCE: AMERICAN GAS ASSOCIATION
CONSUMERS IN MILLIONS
30.4
INDUSTRIAL & COMMERCIAL
22.2
RESIDENTIAL
20.6
1948 '49 '50 '51 '52 '53 54 '55 '56 1957
TREND OF UTILITY GAS CONSUMERS (1957 DATA ESTIMATED)
SOURCE: AMERICAN GAS ASSOCIATION
REVENUES
IN MILLIONS OF DOLLARS
3,853
4,014
RESIDENTIAL
1,579
958
621
INDUSTRIAL & COMMERCIAL
1948 '49 '50 '51 '52 '53 '54 '55 '56 1957
TREND OF UTILITY GAS REVENUES (1957 DATA ESTIMATED)
SOURCE: AMERICAN GAS ASSOCIATION

Industry building for future

By ROBERT W. OTTO

President, American Gas Association
Chairman, Laclede Gas Co.

The gas utility and pipeline industry, advancing to new heights on all fronts during 1957, is confidently building for the future because millions of Americans are depending on gas for present and future needs.

The industry is expressing its confidence in specific terms with current construction expenditures of $2 billion a year, 97 per cent of it earmarked for natural gas facilities. Expenditures will total $8.7 billion for a four-year period through 1960, compared with $5.3 billion spent in the previous four-year period (1953-56) and $4.7 billion in 1949-52.

Throughout the United States today the gas utility industry is providing service for 31 million customers in homes, business, industry, schools, churches, hospitals—in fact, everywhere where comfort, convenience, economy and dependability are essential. These customers receive our "wonder fuel" from approximately 1,300 utility companies supplied by about 100 transmission companies. In addition, some 9 million consumers who live beyond the present reach of utility mains use "bottled gas."

The average number of utility customers during 1957 was 30,385,700, an increase of 2.9 per cent over the 1956 average of 29,536,600 customers. The year-end total was 30.9 million customers.

Utility customers receiving natural gas averaged 27 million during the past year, a gain of 1.8 million customers and an increase of seven per cent over the 25.2 million natural gas customers served during 1956.

Manufactured and mixed gas customers averaged 3.2 million during 1957, for a decline of 21.2 per cent as former users of these fuels continued to convert to natural gas.

The total of gas utility customers is expected to increase steadily to an estimated 33½ million—31 million of whom will be residential customers—on the average during 1960, and then to an average of 38¼ million by 1965, including 35.5 million residential users.

With gas replacing oil as the leading heating fuel for U. S. homes, house-heating customers of gas utilities now aggregate 18 million, an increase of 8 per cent over the previous year, and should approximate 20.5 million by the end of 1959. Gas-heated homes represented about 36 per cent of the nearly 50 million occupied homes and apartments as of mid-1957.

The industry's 18 million househeating customers represent 63 per cent of all residential gas consumers. A year earlier, with 16.7 million househeating customers, the proportion was 60 per cent.

Total sales by the gas utility industry in 1957 climbed to a record high of 74.36 billion therms. This represented a gain of 2 per cent over the 72.9 billion therms sold in 1956.

Natural gas sales reached a new high of 72.02 billion therms, up 3.2 per cent over the 69.8 billion therms sold a year earlier. Manufactured and mixed gas sales aggregated 2.28 billion therms, dropping 25.2 per cent from last year to reflect the increasing conversion to natural gas.

Revenues from gas utility and pipeline sales to ultimate consumers advanced to an all-time high of $4,014 million, a gain of 4.2 per cent over the previous record of $3,853 million a year earlier. Natural gas revenues increased 7.4 per cent to $3,676 million, compared with the 1956 record of $3,422 million. Manufactured and mixed gas revenues were $322 million, a drop of 22 per cent from $412 million in 1956.

Proved recoverable reserves of natural gas reached an all-time high of 237.8 trillion cubic feet at the start of 1957. Even though net production climbed to a record of 10.9 trillion cubic feet in 1956, a net increase of 14.1 trillion cubic feet was attained through new discoveries and other reserve additions totaling 25 trillion cubic feet. During the past decade, additions to reserves have been twice as great as the amount of gas produced.

Ultimate recoverable reserves in the United States alone (not taking the potential sources of supply in Canada and Mexico into account) have been estimated by the U. S. Bureau of Mines at approximately 1,000 trillion cubic feet, while a recent study by the Chase Manhattan Bank estimates a minimum supply of 1,200 trillion.

Natural gas reserves are concentrated in six states—Texas, Louisiana, New Mexico, Kansas, Oklahoma and California —which have combined reserves of 221.5 trillion cubic feet, or 93 per cent of the U. S. total.

In order to permit greater year-round utilization of pipeline capacities and facilitate sales by distributing companies to consumers for heating use, our industry is rapidly increasing its underground storage facilities.

At the beginning of 1957, there were 188 underground storage pools and 7,432 wells in operation in 20 states, primarily in the Middle Atlantic and East North Central areas, with an ultimate capacity of 3.4 trillion cubic feet.

The amount of gas actually in storage reached a new high of 1.5 trillion cubic feet at the end of 1956, with a maximum daily output of 8 billion cubic feet. It was estimated that underground storage facilities represented 20 per cent of the industry's total requirements for its biggest demand day of the year.

Storage investment up

Total capital investment in underground storage fields in 1956 reached $443 million, up from $395 million a year earlier. The industry spent an additional $54 million for such facilities during the past year.

Moving gas from the well-head to the burner tip requires an intricate network of pipelines stretching to every corner of the country. Approximately 21,000 miles of mains were added in 1957 to bring the total mileage to 545,700. The gas industry has extended its mains some 200,000 miles in the past 10 years, and within the next 10 years the pipeline network is expected to spread to more than three-quarters of a million miles.

The gas industry doubled its research, development and promotion activities in the field of gas air conditioning in 1957. The A. G. A. research program set its sights on at least three experimental units for demonstration to interested manufacturers by the end of the year. Two units—the Swiss open cycle sorption system and the improved adsorption system—were demonstrated late in the year. The free piston engine-compressor unit will be shown early in 1958.

Our industry also displayed keen interest and strong support for Arkansas Louisiana Gas Co.'s acquisition of the air conditioning holdings of Servel, Inc. This utility company set a goal of 4,600 residential direct-fired absorption units in its first year of operation. Because of assurances given by other utility companies in recent weeks, this quota has been raised to 7,000 units.

When Servel discontinued making gas refrigerators at mid-year, several major appliance manufacturers immediately entered the picture as potential successors in this field. By mid-December it appeared that one of these companies was prepared to take over production of the gas refrigerator.

Shipments of gas appliances and equipment were below the near-record volume of 1956, principally due to a general decline in housing activity and family formations, but manufacturers anticipate an upturn during 1958.

Although gas ranges as a whole were somewhat under 1956 volume, built-in ranges made substantial gains and partially offset a drop in sales of free-standing ranges. Built-ins, gaining at the rate of about 40,000 units a year, now account for slightly more than 10 per cent of the gas range market.

Approximately 5,000 gas appliances and accessories were received by A. G. A. Laboratories for approval tests in 1957. The majority of these were approved as complying with the industry's stringent standards of performance and were authorized to display the registered Approval Seal or Listing Symbol. Appliances with the Approval Seal—familiarly known as the Blue Star—continued to receive wide consumer acceptance because of their tested safety, durability and performance.

Most of the approved appliances and accessory designs incorporated advanced styling, improved performance and added convenience features. More than 50 per cent of the units approved were designed for comfort heating, the designs stressing compactness and performance. Approval testing of smokeless, odorless type domestic gas incinerators was initiated late in the year.

Laboratories inspectors traveled some 150,000 miles in visiting more than 600 points of production in the U. S. and Canada. They made announced inspections for the purpose of renewal of certification and unannounced inspections of approved units to assure conformance of production in line with the model tested. Quality-control performance checks at point of production were also continued on a large scale.

New provisions in effect

Nineteen revised standards for appliances and accessories were adopted to become effective at the beginning of 1958. These included provisions upgrading gas equipment and provisions for approval testing of cooking appliances incorporating automatic top burner control. They also included a standard for gas incinerators.

Domestic, Industrial and Commercial research activities continued at a high level with 18 projects under study.

A. G. A.'s highly-successful Promotion, Advertising and Research (PAR) Plan completed its 13th year of coordinated activities embracing promotion, advertising, utility company

bi[illegible]rly to meet customers' requirements

research, pipeline research, and public information. Utility and pipeline companies subscribed more than $3¼ million to PAR, which has increased its 1958 budget by another half a million dollars to widen and accelerate its multiple activities.

Among the many successful PAR operations was the industry's first use of national television as a sponsor of award-winning "Playhouse 90" on CBS. It is estimated that Miss Julia Meade's messages on modern gas appliances are reaching 11 to 14 million homes each week on "Playhouse 90," which consistently rates among the top ten national TV network programs. More than $2.5 million was subscribed in 1957 by gas utilities, transmission companies and manufacturers to support the industry's television program. The television budget for 1958 has been increased to nearly $3 million, which is in addition to subscriptions to the PAR Plan.

The national advertising program of PAR in 1957 scheduled $1.4 million in ads appearing in magazines of general and specialized fields with total circulation of nearly 40 million and estimated total sales messages of over 200 million. Many major manufacturers cooperated with the gas industry in space-sharing advertising.

Record-breaking promotion

Major promotion achievements included a record-breaking "White Christmas" promotion featuring Bing Crosby, The Mrs. America Contest sponsored by A. G. A. for the fifth year, nationwide activities of the New Freedom Gas Kitchen and Laundry Bureau, extensive gas appliance tie-ins with motion pictures and television, merchandising aids, educational campaigns, and many similar projects to expand the appliance market and the gas industry in general.

The PAR Public Information Program continued to expand its activities to promote public relations for the entire industry. Major emphasis was placed on investor relations, employee recruitment, telling the facts on government in gas, a series of regional workshops, a national publicity program favorable to gas, and greater stimulation of coordinated local PAR action. The first annual A. G. A. Public Relations Achievement Award was won by the Southern California Gas Co. for its "Facts About Natural Gas" program.

PAR-financed research activities made notable advances in all fields, particularly in gas air conditioning and domestic incinerators. Gas operations research emphasized production of natural gas substitutes, with the synthesis gas-methanization process for production of pipeline gas from coal being successfully integrated in pilot plant operation. Pipeline research concentrated on improved pipeline design and operation. Twenty-two new research projects were initiated during 1957, 54 were continued from the previous year and 19 were concluded.

TOTAL GAS UTILITY INDUSTRY
CUSTOMERS, SALES AND REVENUES

1957 Compared with 1956 (Preliminary)

	1957	1956	Percent Change
CUSTOMERS (at December 31)			
Residential	28,512,600	27,757,000	+ 2.7
Commercial	2,233,600	2,217,000	+ 0.8
Industrial	141,200	127,200	+11.0
Other	31,000	30,000	—
Total	30,918,400	30,131,200	+ 2.6
CUSTOMERS (Average)			
Residential	28,052,000	27,241,000	+ 3.0
Commercial	2,163,500	2,140,300	+ 1.1
Industrial	139,200	125,800	+10.6
Other	31,000	29,500	—
Total	30,385,700	29,536,600	+ 2.9
SALES (Thousands of Therms)			
Residential	24,752,300	24,642,600	+ 0.5
Commercial	6,624,700	6,557,700	+ 1.0
Industrial	39,543,000	38,687,200	+ 2.2
Other	3,437,200	3,035,600	—
Total	74,357,200	72,923,100	+ 2.0
REVENUES			
Residential	$2,309,620,000	$2,236,500,000	+ 3.3
Commercial	482,836,000	471,258,000	+ 2.5
Industrial	1,130,489,000	1,065,568,000	+ 6.1
Other	91,498,000	79,736,000	—
Total	4,014,443,000	3,853,062,000	+ 4.2

NATURAL GAS
CUSTOMERS, SALES AND REVENUES

1957 Compared with 1956 (Preliminary)

	1957	1956	Percent Change
CUSTOMERS (at December 31)			
Residential	25,374,000	24,441,000	+ 3.8
Commercial	2,027,000	1,998,000	+ 1.5
Industrial	123,000	109,000	+12.8
Other	29,000	28,000	—
Total	27,553,000	26,576,000	+ 3.7
CUSTOMERS (Average)			
Residential	24,853,000	23,205,600	+ 7.1
Commercial	1,952,000	1,864,900	+ 4.7
Industrial	121,000	101,800	+18.9
Other	29,000	27,500	—
Total	26,955,000	25,199,800	+ 7.0
SALES (Thousands of Therms)			
Residential	23,069,800	22,444,800	+ 2.8
Commercial	6,333,000	6,157,000	+ 2.9
Industrial	39,209,500	38,193,900	+ 2.7
Other	3,403,600	3,008,500	—
Total	72,015,900	69,804,200	+ 3.2
REVENUES			
Residential	$2,049,234,000	$1,910,273,000	+ 7.3
Commercial	438,210,000	411,144,000	+ 6.6
Industrial	1,099,659,000	1,023,032,000	+ 7.5
Other	89,230,000	77,717,000	—
Total	3,676,300,000	3,422,166,000	+ 7.4

Zinder Report answers need for authoritative criteria for estimating gas and electricity required in multiple housing

New guide for utility costs

The Capehart housing program for military bases throughout the United States has made the military services the most concentrated, most competitive single market for the sale of gas appliances.

An estimated 7 to 10 per cent of all housing to be built in 1958 will come under the Capehart program.

Until now, there has been no clear cut method to estimate utility costs in such a program and as a result there has been considerable confusion in the gas industry as to how to do this.

That's why a comprehensive survey just completed by H. Zinder and Associates, Inc., Washington, nationally-known consultant firm, answers the gas industry's long-felt need for authoritative criteria giving the correct amounts of gas and electricity required for household purposes.

Utility services not only comprise a substantial share of household operating expenses, but the correct choice of utility services has a direct effect on the design of housing and the pace of housing construction. Attention is called to a recent Air Force bulletin which said in part:

"It is emphasized that any substantial progress in the design of a housing project must await the determination of the utility services to be used within the house. Specifically, the utility services for space heating, space cooling, water heating and cooling, all directly affect the design of the house itself. . . . The most economical utilities for operating and maintaining the houses will be used. Because the amount of energy required for heating and cooling is frequently a determining element in utilities investigations, arriving at the estimated amount of these energy requirements is the first step in making utilities investigations."

The Zinder Report represents a direct and accurate answer to the need for determining such energy requirements and makes it possible to select utility services in the best interests of the government, communities, builders and the taxpayer who supports public and military housing projects.

Findings of the Zinder Report will make it possible to estimate utility costs in advance, by applying the prevailing local utility rates to the known amounts of energy required.

In a special study of gas and electric requirements in multiple dwelling housing projects, the Zinder Report computed comparative costs for a 1000 unit military housing development with 700 two-bedroom units and 300 three-bedroom units. Annual costs were figured for three different plans of utility service. The wholesale rates assumed in the computation were: gas—2.5 cents per therm; electricity—$1.00 per kilowatt demand and 0.75 cents per kilowatt hour for energy; water—12 cents per 1,000 gallons.

The estimated annual utility cost for the 1000-unit development under Plan A ("all-gas") was only $83,050. This plan called for using gas for the four major household tasks of cooking, water heating, space heating and summer cooling, while electricity would be used for lighting, small appliances, and refrigeration.

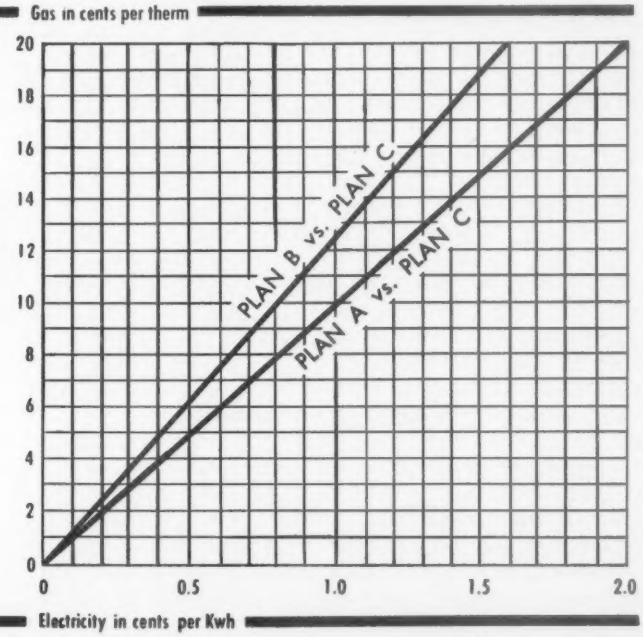
Plan B (combination gas and electric), the same as Plan A except using a conventional electric air conditioning system in place of gas for summer cooling, added up to a total utility bill of $99,985.

Plan C ("all-electric") called for electricity for all purposes including an electric heat pump for space heating and summer cooling. This plan put the total utility cost at $239,778—a difference of $156,728 more than Plan A and $139,793 more than Plan B.

To indicate the national scope of the survey, the Zinder Report computed costs for housing projects in 35 cities throughout the country. The cost of gas in these 35 cities ranged from 2.0 cents to 13.75 cents per therm. Electricity rates varied from 0.628 to 1.892 cents per kilowatt hour.

In analyzing the average cost for specific applications of gas and electricity, the Zinder Report says "the cost of electricity for cooking and water heating is extravagantly high when compared with the cost of gas." Gas for cooking would cost $3,260 in the 1000-unit housing project, while the cost of cooking with electricity would be $21,182. Water

BREAK-EVEN RATES FOR GAS AND ELECTRICITY



heating with gas would cost $6,795 compared with $55,535 for electricity.

"Space heating with an electric heat pump is considerably more expensive than with gas," the report states. "At the level of gas and electric rates assumed for making these cost comparisons, the cost of summer cooling by means of a gas absorption unit is substantially below the cost of operating an air-cooled electric unit."

Summer cooling with the gas unit, on the basis of 1,000 hours of operation, was computed at $25,820—including $14,300 for the cost of gas, $9,360 for electricity required to operate the furnace fan, and $2,160 for water used in cooling. The alternative of using an electric heat pump produces an indicated cost of $49,577.

Major conclusions of the Zinder Report were:

1. The housing project with an "all-electric" plan (Plan C) has a utility bill 188 per cent higher than an "all-gas" project (Plan A).

2. Gas appliances and equipment cost less to maintain than comparable electric facilities.

3. The electric heat pump has not performed as well as expected, nor has it demonstrated that it can compete economically with gas for heating in multiple housing projects.

4. In a study of 35 typical communities, the cost of electricity in an "all-electric" project was, with only one exception, higher than the total utility cost in an "all-gas" project.

The American Gas Association is making the Zinder Report available to all gas companies at a substantially reduced cost providing the companies will present the report in person to architects, consulting engineers and colleges and that they notify the A.G.A. Utilization Bureau of the name of the person or group receiving the report.

COMPUTATION FOR 35 CITIES OF COMPARATIVE UTILITY COSTS
1,000—Unit Military Housing Project

	ALL GAS PLAN A				ALL ELECTRIC PLAN C	Excess Cost of All Electric Over All Gas	
	Annual Cost of Gas	Cost of Cooling Water	Annual Cost of Electricity	Total Cost	Annual Cost of Electricity	Annual Amount	Per Cent
Shreveport, La.	$ 34,184	$2,520	$36,443	$ 73,147	$218,211	$145,064	198.3%
Oklahoma City, Okla.	39,912	2,467	36,801	79,180	234,393	155,213	196.0
Little Rock, Ark.	42,730	2,640	40,529	85,899	241,818	155,919	181.5
Butte, Mont.	42,730	2,600	31,204	76,534	200,356	123,822	161.8
Wichita Falls, Texas	48,478	4,050	37,678	90,206	229,915	139,709	154.9
Memphis, Tenn.	55,026	3,360	25,683	84,069	162,142	78,073	92.9
Albuquerque, N. M.	53,977	3,031	53,472	110,480	327,660	217,180	196.6
Phoenix, Ariz.	55,382	1,752	27,186	84,320	205,355	121,035	143.5
Salina, Kan.	56,974	3,840	43,951	104,765	193,448	88,683	84.6
Denver, Colo.	64,523	2,110	34,393	101,026	212,195	111,169	110.0
Jackson, Miss.	67,514	2,400	41,156	111,070	302,883	191,813	172.7
Des Moines, Iowa	68,368	2,306	41,412	112,086	255,465	143,379	127.9
Birmingham, Ala.	69,120	1,916	38,160	109,196	239,778	130,582	119.6
Salt Lake City, Utah	72,471	2,880	46,981	122,332	283,713	161,381	131.9
St. Louis, Mo.	76,632	1,636	44,774	123,042	218,678	95,636	77.7
Pittsburgh, Pa.	78,264	2,117	39,794	120,175	246,037	125,862	104.7
Dallas, Texas	84,606	2,160	32,436	119,202	210,908	91,706	76.9
San Diego, Calif.	94,059	4,296	39,888	138,243	252,148	113,905	82.4
Louisville, Ky.	97,938	1,248	44,268	143,454	248,469	105,015	73.2
Atlanta, Ga.	100,843	2,960	50,551	154,354	316,672	162,318	105.2
Omaha, Neb.	103,471	2,160	41,942	147,573	266,448	118,875	80.6
Peoria, Ill.	108,364	2,554	59,796	170,714	380,679	209,965	123.0
Battle Creek, Mich.	111,099	2,160	54,147	167,406	338,166	170,760	102.0
Nashville, Tenn.	111,517	2,347	22,333	136,197	140,993	4,796	3.5
Minneapolis, Minn.	111,939	4,800	48,306	165,045	280,743	115,698	70.1
Columbus, Ohio	116,989	2,160	52,617	171,766	288,397	116,631	67.9
Indianapolis, Ind.	121,472	2,400	48,209	172,081	278,544	106,463	61.9
Baltimore, Md.	136,070	2,453	43,313	181,836	262,166	80,330	44.2
Roanoke, Va.	136,959	1,995	51,215	190,169	269,660	79,491	41.8
Chicago, Ill.	154,000	2,160	39,894	196,054	236,553	40,499	20.7
Washington, D. C.	158,444	2,640	41,031	202,115	254,325	52,210	25.8
Newark, N. J.	162,614	2,160	44,338	209,112	228,383	19,271	9.2
Wilmington, Del.	169,277	1,848	43,388	214,513	272,796	58,283	27.2
Worcester, Mass.	186,920	3,360	63,053	253,333	393,577	140,244	55.4
Hartford, Conn.	235,016	2,400	51,798	289,214	316,498	27,284	9.4

United Gas Corp. executive outlines steps for successful gas sales program in military housing

Selling gas for Capehart housing

By I. E. ROWE
Director of Utilization
United Gas Corp.

The United Gas Corp. recently learned that the Air Force was planning a 300-unit housing project at the Lake Charles, La., base. Lake Charles is in an area approved for air conditioning, and the Air Force wanted a proposal for gas air conditioning. We did some work with the post installations engineer and assisted him with some preliminary calculations which indicate that the operating cost comparisons will be considerably in our favor.

The Capehart Military Housing Law provided for the construction of dwelling units for military personnel either on or off the base, and the initial investment plus operating and maintenance costs are amortized over a 25-year period through the Federal Housing Administration and other related housing agencies.

The official designation of these projects is Title VIII Housing. It is important to note that these installations are government-owned real estate, and they always intend to purchase utility services through the existing base meter or wholesale at a single point of delivery.

Some housing facilities were built at military bases several years ago under the Wherry Act. This law provided for private financing and amortizing of military housing either on or off the bases. In many projects the dwelling units are individually metered by the local utilities. We have been advised that if a Capehart project is proposed for a military base, any existing Wherry housing at that base must be converted to operate under the Capehart plan along with the proposed new facilities.

This means that the government must purchase the utilities on the property and take delivery of gas, water or electric power at a single point on a wholesale rate. Such a requirement will probably cause considerable inconvenience and expense, and in most instances some loss of revenue to the respective utilities. Additional plant investment will be required if it is necessary to re-route feeder lines to serve areas beyond the Wherry projects.

Considerable time and attention have been devoted to the justification for air conditioning military dwelling units. It costs a lot of money to train military personnel initially, and when there is a high turn-over rate, it costs much more. It is reported that a study made by the Air Force has convinced the Department of Defense and others who control the purse strings in Washington that it is a good investment to provide very comfortable living quarters for these highly trained military personnel. It is claimed that it is cheaper to air condition the dwellings and hold the men, than it is to lose them at the end of the original enlistment period and be forced to train new ones. The Air Force story must be convincing because over 50 projects have been scheduled for air conditioning.

Whatever our views are on this subject, we must admit that a large new market for air conditioning has been opened. It is extremely important to remember also that when electric air conditioning is installed, an electric distribution system, including house wiring, is installed which is adequate to operate heat pumps. This of course puts our competition in a much more favorable position to sell electric heating because it can be installed with very little additional cost for necessary wiring. It goes without saying that we want to avoid being put in such a competitive position. There is no criticism of gas utilities who have gone along with this plan, because we have not been in a position to make a reasonable alternate proposal until recently.

The Air Force has issued several documents which outline the official policy in regard to air conditioning dwellings and other military buildings. It is important that gas utility personnel who make contacts with base engineers relative to air conditioning should have these bulletins and be familiar with their contents. In chronological order they are:

(1) *Utilities Operation and Services* (May 20, 1954). This is a general bulletin on air conditioning, giving some design criteria, and listing several weather

zones in which various types of air conditioning are approved. This bulletin does not officially recommend air conditioning utilizing refrigeration in any type of living quarters.

(2) On April 17, 1956 a revision to the above bulletin was issued which changed the summer weather zone designations as well as the types of structures that could be air conditioned. The authority to air condition living quarters with refrigeration is assumed to come from this revision. The fact that certain zones and structures are listed as approved for air conditioning does not necessarily constitute blanket approval. Whether any project is air conditioned or not is finally determined by the Secretary of Defense.

(3) On Oct. 3, 1957, a memorandum was released labeled *Utilities Investigations—Installations Engineers Family Housing Memorandum.* This bulletin revised and superseded another one having the same title issued Dec. 7, 1956. It was prepared to establish responsibilities and procedures for making utilities investigations for new family projects.

The bulletin last described contains one of the principal keys to the securing of gas service in Capehart projects. In reading the following quotation from the first two paragraphs, please note that it is contemplated that the preliminary economic studies and decisions on utility services should be done by the post or installations engineer.

"Command and/or base installations engineers will initiate engineering surveys and studies to prepare a Utilities Investigation Report at the inception of planning for any housing project, and, for Title VIII projects not later than notice that the Secretary of the Air Force has certified to the need of the housing project. Early completion of utilities studies will expedite design and construction. In addition, results of the utilities investigation are necessary for the proper determination of the scope of all related design and construction contracts. First priority will be given to evaluation and utilization of energy sources for heating, cooling, water heating and cooking; second priority, to other utility problems.

"It is emphasized that any substantial progress in the design of a housing project must await the determination of the utility services to be used within the house. Specifically, the utility services for space heating, space cooling, water heating and cooling, all directly affect the design of the house itself. Also, if it is planned to site adapt any one of a relatively large number of housing plans already completed, it will be necessary first to have a clear understanding of the utilities to be used in order to make an intelligent selection of those existing plans. The major factors usually having the dominant effect in determining the utilities to be used are the costs for space heating, and, if permitted, space cooling. The most economical utilities for operating and maintaining the houses will be used. Because the amount of energy required for heating and cooling is frequently a determining element in utilities investigations, arriving at the estimated amount of these energy requirements is the first step in making utilities investigations."

Now it is obvious how necessary it is for the utility engineer to be "on the spot" in the initial planning stage on any project.

Know people's duties

It is important at this point to know the duties of the people utilities will be working with and the procedures they normally follow. There is the military post engineer or contracting officer, along with his staff, who is principally interested in rates, gas sales contracts, costs for extentions to serve and other matters of a contractural nature between the military base and the utility. The post civilian or installations engineer and his staff are primarily responsible for making the economic studies which include preliminary construction, operating and maintenance cost estimated. This department is also generally in charge of supervising construction contracts, as well as the actual operation and maintenance of all structures and improvements on the base.

Although the post civilian engineer is formally charged with the responsibility for making preliminary studies and recommendations, in many instances he does not finally make the actual decisions. It has been customary to have the architectural and engineering contracts include the work necessary for making the economic studies. The base civilian engineer can have some influence, but the independent consulting engineer usually reserves the right to make the final recommendation.

It is thus very obvious that the post civilian engineer and the consulting engineer are important persons to know, because if your proposal doesn't show up favorably in their reports, you don't sign a gas sales contract with the military engineer. I am not making an unqualified statement here that the local engineers make the final decisions that may not be reversed higher up. The new rules and organizational changes do, however, emphasize the importance of the local analysis and recommendation.

I think we would be in a very favorable position for appeal if our service was recommended locally, and that decision was later reversed at a higher level. United Gas serves an Army base where a 2,000-unit air conditioned Capehart project was recently authorized. Gas was selected for cooking, heating, and water heating in all of the dwellings. We attribute our success on this project to a close working relation with the post engineers as well as the independent consulting engineering firm in charge of all mechanical design.

On some Capehart projects economic studies have been prepared without actual plans. Such a procedure naturally requires that many assumptions be made. It has been noted that assumptions have not always been based on facts that are generally available to all utility engineers. In some instances the capacities of the electric and gas heating equipment have not been equal, and more insulation has been assumed for electric heating than for gas without charging the additional insulation cost to the electric heating installation. It is also ridiculous to assume that an electric air conditioning unit operating on the cooling cycle only and a heat pump that operates two or three times as many hours in a year would have the same life expectancy and the same maintenance and replacement costs. Some Capehart projects are now being considered with dishwashers and clothes dryers furnished in the dwellings. If these appliances are electric they do not have good load factors, and their use makes most electric proposals look more unfavorable. Some engineers have included the power used by these appliances in the miscellaneous electric power usage section of their analyses.

We hope that general acceptance of the Zinder Report will curtail some of these practices. It is imperative that gas utility engineers who do this type of contact work become intimately familiar with the contents of the Zinder Report.

(Continued on page 31)

Kitchen costs to be 15.6 per cent of 1958 home construction total

Outlook for appliance sales good

By CLIFFORD V. COONS

President, Gas Appliance Manufacturers Association
Executive Vice-President Rheem Manufacturing Co.

The residential gas appliance and equipment industry estimates that at least 15.6 per cent of the $32 billion outlay expected in 1958 for new home construction and modernization will be spent on kitchen, laundry and heating equipment, with gas-operated types in greater demand than at any time in the past.

A better than seasonal pick-up in the gas heating business since last summer, continuation of heavy volume in gas water heaters, and a sharp final-quarter rise in sales of gas built-in ranges are among the reasons why the industry's outlook for the new year is extremely bright.

Official forecasts of 1,100,000 housing starts valued at $17 billion and home improvement projects totaling $15 billion are another basis for gas equipment industry enthusiasm.

It appears likely that housing starts will be better distributed in 1958 than during this year when Los Angeles alone accounted for every 12th start. This will mean better distribution of business among regional equipment producers.

The average new home, according to recent past performances, will retail for about $15,500 and will require about $1,850 worth of cooking, heating, laundering and related equipment. In cases of home improvement, 20 per cent of the average budget will go for similar equipment.

The combination of the new homes and modernization markets therefore will involve an equipment expenditure by consumers of more than $5 billion, or 15.6 per cent, of the $32 billion earmarked for shelter production and improvement in 1958.

Recent figures show how the gas industry ties into the present and future housing picture. Seven out of 10 new homes now are being equipped with gas central heating furnaces or boilers. Gas water heaters are outselling other types by better than three to one, while sales of gas built-in ranges, now in demand for both new homes and replacement projects, are up nearly 20 per cent over last year's total and are expected to go much higher in 1958.

Even if only 10 per cent of the nation's existing homes come in for some improvement next year—and the outlook is for a much larger number, according to building and loan and other lending institutions—the effect on appliance sales is likely to be positive.

The tendency to favor gas equipment is already discernible in the step-up of gas conversion burner, clothes dryer, direct heating equipment, gas range and water heater sales during the final quarter of 1957, as well as the all-year pace of furnace and boiler sales.

Demand for gas dryers indicates that home improvers want to complete laundry automation that began with earlier installation of washing machines. Automatic gas water heaters figure in modernization projects because of growing families, the need for increased hot water-producing capacity, and the fact that new and improved components of the modern gas heater have added to its operating efficiency without increasing its bulk.

As to gas ranges, either free-standing or built-in, dealers report demand arising from a swing to the new time and automatic heat controls for both the oven and range top burners and a realization, at long last, of how much easier it is to run a kitchen equipped with efficient cooking automation.

Students of the modernization market also see up-dated refrigeration and whole-house air conditioning as in more common demand in 1958. Both services are now available in gas-operated equipment, and the new year is expected to see more gas equipment companies engaged in this phase of the industry.

The continuing spectacular expansion of the natural gas pipeline system is a strong indication of the industry's belief that our expanding population will demand gas and gas burning appliances and equipment in increasing volume. And the entire industry—producers, pipeliners, utility companies and manufacturers of gas appliances and equipment—are united in support of programs that will not merely maintain the industry's leadership, but will expand its service to the nation's homes and stimulate the sale of gas and gas equipment.

Group discussion leaders on programming techniques, testing, and debugging (l. to r.): G. H. Harbison, T. L. Masters, W. Turner, A. Conrad, D. M. Cameron, and K. Campbell

Co-chairmen were E. T. White (l.) of Public Service Electric and Gas Co. and Russell W. Britt of the Wisconsin Electric Power Co.

Planning an approach to electronics was the goal of this group. They are (l. to r.): R. E. Harbaugh, E. T. White, R. C. McCollum, E. J. Knight, R. H. Johnson, R. A. Krauss

While customer accounting problem makes change to computer difficult, most speakers at electronics Seminar optimistic that it can be done

Use of electronic machines increasing

Electronic accounting machines are playing an increasingly important role in the public utility accounting function, an electronics seminar held in Detroit Dec. 2-4 has disclosed.

Although most utilities now using the electronic computer are employing them for the customer accounting function, a few computers are processing payrolls, doing stock and dividend accounting, material and stores accounting, and solving engineering problems. These applications were mentioned by many companies as the next areas for study after completing the change to customer accounting.

This was revealed at the three-day seminar jointly sponsored by the A. G. A. Accounting Section and the Edison Electric Institute Accounting Division. The program was planned by the Electronic Accounting Machine Developments Committee of each association.

Co-chairmen were Emmet T. White,

cussing general accounting and other applications (l. to r.): W. Hinckey, F. Beisel, J. F. Weiss, A. S. Reck, R. E. Skogg, W. H. Caunt, P. T. Harnack

Customer accounting system design group leaders (l. to r.): E. D. Cowles, F. J. Porter Jr., G. J. Schneider, E. T. Larkin

up discussion leaders speaking on conversion planning and problems were to r.): J. Mulkiten, W. J. Ott, R. R. Fortune, H. J. Stewart, G. Claussen

These group leaders studied many phases of personnel problems. (L. to r.): D. Pizzimenti, J. Jacobson, H. Mayer, and W. J. Ott

Public Service Electric and Gas Co., and Russell W. Britt, Wisconsin Electric Power Co. They presided over two of the three general sessions.

A highlight of the program was a visit to the IBM 705 and 650 computer installations at the Detroit Edison Co. The 705 was observed processing customer accounts and preparing bills. The 650 was used to demonstrate a utility plant life determination procedure.

J. D. Elliott, The Detroit Edison Co., and chairman, the EEI Accounting Division, welcomed delegates to the seminar. Representatives from 13 utilities discussed their pioneering accomplishments in applying electronic computers in customer accounting and general accounting areas. Companies emphasized their accomplishments, problems encountered, major differences in their particular application as compared to other similar computer installations, and their plans for further use of the computers.

While the complexity of the customer accounting problem makes it difficult to adapt to a computer, most speakers were optimistic in stating that it can be done. Much difficulty has been due to a lack of familiarity with the computer and the function to be converted. Thus, the training and education of personnel, including management, was given top priority for any utility planning to use the computer.

All companies using the computer indicated that their estimates had been incorrect as to time required for studies, conversion, operating times and people to staff the system.

Many speakers suggested that serious consideration be given to a step by step conversion to a computer system. In this method, small functional units of the total system should be programmed and converted in stages, rather than attempting to program and convert the entire system at one time.

Small group discussions were held Tuesday. The subjects were as follows:

Personnel problems—selection, training, organization, morale; planning an approach to electronics, general accounting and other applications, customer accounting and system design, programming techniques, testing and debugging, and conversion planning and problems.

Discussions were led by utility representatives from companies with actual experience in the particular subjects. The informal discussions permitted delegates to obtain information and to discuss their individual problems and experiences. Each delegate could participate in four group discussions.

A summary of some of the items discussed is as follows:

A major problem is the selection, training and organization of personnel. It is imperative for people responsible for designing the computer procedure to understand the characteristics and

On the General Sessions program —front (l. to r.): W. J. Ott, R. H. Johnson, E. T. White, and G. H. Harbison. Rear (l. to r.): R. E. Harbaugh, W. H. Caunt Jr., E. K. Schneider, A. S. Reck, E. J. Knight

techniques of computers as well as the details of the problem under study. It is felt that programmers should be selected almost exclusively from within the company. The programming group should be limited in number to insure control of activities.

Whenever possible, applicable tests should be used to help in selecting programmers. These should include personality tests, ability to handle figures, logical analysis tests, etc. The IBM aptitude test for programmers was suggested as being helpful.

A programming group will be required on a permanent basis in any computer organization. Such a group will revise existing programs and develop new procedures.

It is important to insure the accuracy of the input data. A computer can process incorrect data as quickly as correct data. In addition to a strict control of input data, it was suggested that a spot check be made of output data to detect errors or unusual conditions which might reflect inaccurate input data.

As a rule, outside consultants should not be used to make feasibility studies or to develop and program a computer procedure. There are few consultants with the experience to contribute to an electronic study. It is easier to train company personnel in computer characteristics than to train outside computer specialists in company procedures and data characteristics.

Automatic programming will assist programmers in the future. As standardized routines are developed, they can be used by the machine to develop its own coding automatically in place of tedious manual programming. Programming will also be simplified with recent developments which permit writing the problem in English phrases which can be interpreted directly by the computer to write the program in its own code of instructions.

Considerable testing and debugging of programs will be required soon after using the program for actual operations. Prior to actual operations, the program may have been manually or desk debugged and machine debugged with test data. In actual operations, the greater amount of data processed always seems to result in unanticipated stops which require revisions in the program.

Simplify rate structures

The use of medium size computers has resulted in less equipment required, fewer employees, space saving, faster processing, and less cost.

The requirements of computers in certain data processing operations have permitted some companies to simplify their rate structures.

Equipment improvements, especially in the internal memory, permitted one company using a large computer for customer accounting to reduce its operating time from 24 hours daily to 12 hours daily. Improved programming will eventually reduce processing time to approximately ten hours per day.

New developments in electronic equipment were reported at a general session on the third morning. Reports were presented by committee members who maintain contact with more than 20 manufacturers during the year. The reports on computer developments indicated that new systems will have increased memory capacity utilizing magnetic cores, and that internal speeds of operations will be considerably faster than present equipment.

Of special interest were the reports on electronic components designed for the input-output areas of an electronic data processing system. In addition to high speed printers, several manufacturers are designing devices which will automatically read and transcribe printed and coded data on source documents to punched cards or magnetic tape. One device will read printed characters, using an optical sensing technique, and convert the data into computer language. The data presently are recorded on punched cards, but ultimately will be recorded on tape or fed directly into a computer. Another machine can interpret previously recorded magnetic dots, to represent digits, and record the data on punched cards for further processing.

An output device will soon be marketed which, operating from magnetic tape, will print up to 13 lines of information on both sides of a bill form and

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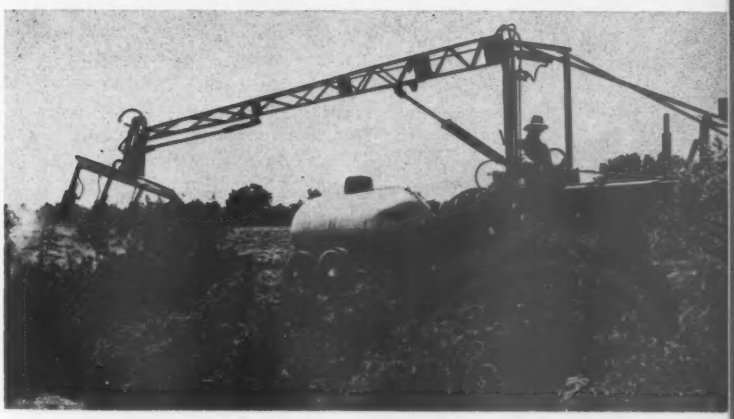


Above, a new chemical plant using LP-Gas as feedstock; below, LP-Gas weeding, an important agricultural tool. (Photograph by Agricultural Equipment Corp.)

1957 LP-Gas sales up 4.1 per cent over '56

By GEO. R. BENZ
W. F. DEVOE
PAUL W. TUCKER
Phillips Petroleum Company
Bartlesville, Oklahoma

LP-Gas sales in 1957 increased by 272,000,000 gallons—4.1 per cent over the 1956 total—pushing total sales to an estimated 6,907,700,000 gallons.

While this increase is lower than the industry has shown in recent years, it is impressive since it exceeded the estimated 1957 percentage increases in sales of all other petroleum products.

The domestic and motor fuel market in 1957 is estimated at 3,943,300,000 gallons, a 4.5 per cent or 168,800,000 gallon increase over 1956. The most important factor in domestic growth continues to be house heating. As natural gas distribution facilities are expanded and extended some LP-Gas heating loads are lost, but in practically all cases the net result is a gain due to more people becoming gas conscious. The swing to central heating was more pronounced this year and "year-around weather conditioning" with gas represents a huge potential market still to be tapped.

Agricultural use of LP-Gas continued to expand in spite of an extremely wet growing season and floods in many sections. Crop drying increased tremendously in many sections this year and offered an opportunity for many dealers to increase their summer LP-Gas load.

About 7.9 per cent more LP-Gas was used as motor fuel in 1957 than in 1956 for an increase of 61,000,000 gallons. This makes the estimated total 834,500,000 gallons.

Largest volume users of LP-Gas motor fuel are irrigation pump engines, farm tractors and drilling rigs. Heavy rainfall during the growing season in the principal irrigated areas of the Great Plains states along with reduced drilling activity resulted in a substantial drop in fuel consumption for these two uses. The fact that, in spite of this drop, the total volume of LP-Gas used for motor fuel exhibited a healthy increase testifies to the tremendous growth of other engine fuel uses.

The number of factory equipped LP-Gas farm tractors produced in 1957 is estimated at 15,500—27 per cent higher than in 1956. This increase is significant since gasoline fueled farm tractor production was down 7 per cent. LP-Gas fueled tractors now represent 5.5 per cent of total tractor production.

A majority of the new irrigation pumps being installed are LP-Gas powered and many existing units are being converted to LP-Gas, although natural gas continues to make inroads on this load in the gas producing areas.

The fastest growing segment of the LP-Gas motor fuel market is still industrial tractors and lift trucks. A high percentage of new units are now factory-equipped for LP-Gas motor fuel. Over 40 per cent of the LP-Gas carburetor production (excluding farm tractors) is for lift trucks and industrial tractors.

LP-Gas has nearly taken over as the fuel for cargo truck refrigeration units.

The number of highway vehicles fueled by LP-Gas continues to increase although only a few of the long distance haulers have, as yet, converted their fleets. Many fleets are running comparative tests with other fuels at this time. LP-Gas dispensing facilities are being installed at more and more service stations to serve this rapidly expanding market.

Sales of LP-Gas appliances and equipment last year lagged behind the highs of 1956 due to a drop-off in all durable

goods. Several reasons may be given for this but certainly one would have to include the fact that new housing starts and new family formations are down. However, in the over-all appliance and equipment field, LP-Gas appliance and equipment sales were holding their own or above the average.

Domestic LP-Gas range sales are estimated at 394,000 units—20 per cent of all domestic gas range sales. Built-in ranges are becoming more and more popular, particularly in new homes.

Automatic LP-Gas water heater sales were about 304,200 which is over 12 per cent of all automatic gas water heaters. Warm air furnace sales are estimated at 720,000 of which approximately 10 per cent (72,000) were for use with LP-Gas. Of the 160,000 conversion burners, 3.6 per cent (5,800) were expected to be for LP-Gas. Sales of LP-Gas direct heating equipment and vented recessed wall heaters should reach 405,800 units. LP-Gas floor furnace sales are estimated at 25,500 or 27.7 per cent of all gas floor furnace sales.

LP-Gas used in industrial and miscellaneous applications during 1957 is estimated at 668,900,000 gallons—up 1.4 per cent or 9,200,000 gallons over 1956. The increase in this category was held down by the "leveling-off" trend in industrial activity this year.

Use of LP-Gas by gas utilities in 1957 is estimated at 203,500,000 gallons, a decrease of 4.2 per cent or 8,800,000 gallons from 1956. This is due to expansion and extension of natural pipelines.

Gas distribution utilities continue to show a strong interest in underground LP-Gas storage facilities. Preliminary work has already started on one such mined LP-Gas storage installation in the Great Lakes region.

The sale of LP-Gas as a raw material for the manufacture of chemicals and chemical intermediates gained at a somewhat lower rate than during the previous two years, due primarily to general business conditions. However, the operation of new facilities in the Gulf Coast and western Texas area, some of which were started up in late 1956, resulted in a gain of 6 per cent or 94,400,000 gallons, to a total of 1,665,500,000 gallons for the year.

Most of the increase was due to the rapid growth in polyethylene capacity, with a number of plants coming on stream during 1957. Other polyolefin plastics or elastomers, such as polypropylene, polybutylenes and polybutadienes, received considerable attention but remained largely in development stages.

The use of LP-Gas in manufacturing synthetic rubber components is estimated as 426,500,000 gallons, an increase of 2 per cent or 8,400,000 gallons over 1956. The actual total might be higher if it were possible to clearly distinguish between that going into manufacturing synthetic rubber and that used as chemical feedstocks. The U.S. consumption of synthetic rubber was up about 8 per cent over 1956. That production increased only 2 per cent is attributed to the fact that producers and consumers both reduced inventories during the first half of 1957. In addition, one major synthetic rubber producer was shut down for an extended period by a strike.

The year 1957 saw the addition of 32 new plants with an estimated production capacity of 1,200,000 gallons per day. This additional production capacity along with that resulting from expansion of existing plants was sufficient to offset the lower production from some plants, part of which was due to curtailed allowables. It is currently estimated that approximately 23 new plants having a production capacity of nearly 1,500,000 gallons per day will be added in 1958. A recent National Petroleum Council report indicated that the LP-Gas production could be vastly increased in the event of a national emergency assuming no proration of crude oil and natural gas production. A new Canadian plant came on stream in 1957 and others are proposed for 1958.

LP-Gas storage capacity in both conventional aboveground steel storage tanks and underground storage installations continues to increase. It is estimated that the available underground storage capacity now totals close to 1,400,000,000 gallons, and there is now an additional 400,000,000 gallons planned or under construction.

A new aspect of LP-Gas storage capacity has been introduced this year. This is the miscible displacement of crude oil which involves the injection of LP-Gas followed by lean gas and in some cases subsequently followed by water. While it is referred to here as another type of storage, it can easily be considered another use in that the LP-Gas is essentially "stored" underground while used in this process. It is not known as yet what the recovery of LP-Gas will be and in most instances it will be necessary to reprocess it before it will be marketable as LP-Gas. The volume involved here is indefinite but several companies now have projects underway and with the interest currently being shown it could become an important factor in the LP-Gas storage and supply picture.

Expansion of LP-Gas transportation facilities continued during 1957. One new interstate LP-Gas pipeline went into operation in addition to several short pipelines to carry feedstock to chemical plants. Several pipelines went into operation carrying natural gas liquids, one pipeline is being considered for products service (including LP-Gas), and two railroads have undertaken a joint study to determine the feasibility of constructing an LP-Gas pipeline along their right-of-way.

It is estimated that 23,000 tank cars were in LP-Gas service during the peak demand season. Uninsulated tank cars entered LP-Gas service last year.

The trend to larger (10,000 gallon) highway transport units continues. The volume of LP-Gas moving by highway is growing steadily.

While the industry exhibited a better growth than the petroleum industry in general and the nation's economy as a whole, it can do better. There are still many potential load builders to be developed. The industry winter to summer ratio has been increasing. By pushing summer load builders like crop drying, flame weeding, asphalt heating, aggregate drying and tractor fuel, dealers will be in a better position to capture and expand the house heating load. Gas air conditioning still represents a tremendous potential load yet to be tapped.

By developing new fuel loads, utilizing modern business practices, and by effective selling methods the industry should do even better in 1958.

DP&L wins A.G.A. safety award

AN American Gas Association safety award has been presented to the Delaware Power & Light Co. in recognition of the company's northern division gas operations employees, who completed two million manhours without a lost-time accident. The company's gas distribution department employees completed a million accident-free manhours between Oct. 1, 1952 and Sept. 16, 1957; the service department employees did the same between May 27, 1953 and Oct. 18, 1957.

The entire gas division has been free of chargeable accidents since June 29, 1954.

This promotion was a beauty

This pretty girl could well be a future Mrs. America. As County fair queen, she can "bake a mean apple pie"

The North Shore Gas Co. of Waukegan, Ill., found that their sponsored cook-off in the County Fair was excellent promotion. Above are three contestants

Ever back into a promotion and then discover it's one of the hottest publicity gimmicks you've ever latched onto?

That's what happened at North Shore Gas Co. in Waukegan, Ill., when the company was approached by the chairman of the queen contest for the local county fair.

He wanted something a little different this year. He was considering a cooking contest for the eight finalists and wondered whether North Shore would be able to make a few gas ranges available for the contest.

Since the utility had planned to put up a display at the fair and connect three ranges for demonstrations anyway, it was decided to go along with the idea.

The advertising department went into action with newspaper ads and radio commercials urging people to go to the fair and visit the gas company display—and more particularly, urging people to witness the queen contest "cook-off" on gas ranges.

The local radio station then contacted North Shore and asked whether they would sponsor a half hour adlib-interview show at the fair nightly for the four days of the fair. The show was to be done right from the display, with a local disc jockey doing the chatting.

Many saw gas booth

Many persons visited the utility's booth each night to see the broadcast, mainly because the queen contest candidates, dressed in formals, were present.

The cooking contest lasted three hours and the eight girls each prepared a dessert, working in three shifts on the three ranges. Five bachelor judges selected the queen, who had baked a mouth-watering apple pie in one of the gas ranges.

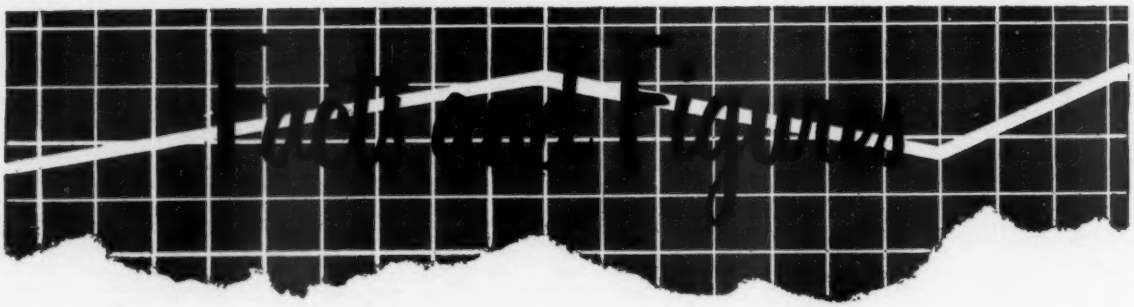
The *Waukegan-News-Sun* headlined the story about who won the queen contest with: "County Fair Queen Can Bake A Mean Apple Pie."

And in the course of the newspaper's story: "They (the finalists) were presented to the fairgoers that night and the next morning they worked for three hours over stoves in the North Shore Gas Co. booth in Exposition Hall."

A few days later, three weekly newspapers hit the streets with photographs taken of the girls during the cooking contest and of the queen posing beside a gas range.

The queen gave her permission to use her photograph and the statement, "I love gas for cooking," in a gas company advertisement published in 13 newspapers.

And what did all this publicity cost? Excluding the advertisements which normally would run anyway, the cost of the four radio broadcasts, photography supplies and a small gift for the queen was under $200.



Prepared by A. G. A. Bureau of Statistics

Gas utility and pipeline construction expenditures during the third quarter of 1957 reached a record high of $577 million. This is 11.0 per cent higher than the record-breaking second quarter and 42.8 per cent higher than the third quarter of 1956. During the first three quarters of 1957, construction expenditures totaled over $1.4 billion, up 34.5 per cent over the comparable three quarters of 1956.

Preliminary fourth quarter 1957 expenditures are budgeted in the amount of $559 million. Total 1957 construction expenditures are estimated at a record $2,010 billion. Estimated construction expenditures for the first quarter of 1958 will reach $370 million.

Total operating revenues of the gas utility and pipeline industry aggregated $6,121 million for the 12 months ended Sept. 30, 1957—an increase of $316 million, or 5.4 per cent above the same period last year.

Operating expenses increased $329 million, up 8.5 per cent for the latest period, to a total of $4,180 million. Total operating revenue deductions, including operating expenses, depreciation charges and taxes amounted to $5,336 million, up 6.4 per cent. Net income declined 1.9 per cent during this period, from $622 million to $610 million. Net income has been adversely affected by the fact that gains in sales have been disappointing because of the milder winter in 1957 and the downturn in business which affected industrial sales. The inability to pass on increased costs to the ultimate consumers has also affected net income during this period.

Total sales of the gas utility and pipeline industry to ultimate consumers during October 1957 amounted to 5,372 million therms, an increase of 4.7 per cent over sales of 5,129 million therms in October 1956. The increase in the use of gas can be attributed primarily to the colder weather experienced throughout most of the country coupled with a gain of approximately 919,000 new gas customers added by the industry since October 1956. Industrial sales advanced from the 3,545 million therms sold in October 1956 to 3,591 million therms in October 1957, an increase of 1.3 per cent. This increase in gas sales to industrial users occurred despite the fact that industrial production for October 1957, as measured by the Federal Reserve Board index, was down 2.7 per cent from the same month the year before. The index of industrial production (1947-1949 = 100) for October 1957 was 142, four points less than the index for October 1956. The Association's October index of gas utility and pipeline sales is 226.2 (1947-1949 = 100).

Housing starts in the first 11 months of 1957 declined to 970,300 units, the Labor Department reported. This was 8.0 per cent under 1956, and the smallest for the period since 1949. The total number of starts, however, is sure to exceed one million units for all of 1957. Federal housing officials feel confident that home building next year will also top the million mark now that money costs are easing and mortgage

GAS INDUSTRY INCOME STATEMENT

(MILLIONS OF DOLLARS)

(REFERS TO ALL DISTRIBUTING UTILITIES AND PIPELINE COMPANIES)

	TOTAL INDUSTRY			NATURAL GAS		
	Twelve Months Ending Sept. 30			Twelve Months Ending Sept. 30		
	1957	1956	Per Cent Change	1957	1956	Per Cent Change
Total operating revenues	$6,121	$5,805	+ 5.4	$5,731	$5,371	+ 6.7
Operating expenses—operations	3,964	3,653	+ 8.5	3,711	3,378	+ 9.9
Operating expenses—maintenance	216	198	+ 9.1	202	183	+10.4
Operating expenses—total	4,180	3,851	+ 8.5	3,913	3,561	+ 9.9
Depreciation, retirements, depletion, amortization, etc.	420	388	+ 8.2	392	360	+ 8.9
Federal income taxes	418	502	—16.7	400	466	—14.2
All other taxes	318	272	+16.9	292	252	+15.9
Total taxes	736	774	— 4.9	692	718	— 3.6
Total operating revenue deductions	5,336	5,013	+ 6.4	4,997	4,639	+ 7.7
Net operating revenues	785	792	— 0.9	734	732	+ 0.3
Other income	77	52	+48.1	76	46	+65.2
Gross income	862	844	+ 2.1	810	778	+ 4.1
Interest on long-term debt	248	215	+15.3	231	198	+16.7
Other income deductions	4	7	—42.9	5	7	—28.6
Total income deductions	252	222	+13.5	236	205	+15.1
Net income	610	622	— 1.9	574	573	+ 0.2

funds are becoming more plentiful.

Appliance shipments continue to lag because of the declines in new home construction.

The appliance data shown in the tables relate to manufacturers' shipments by the entire industry compiled by the Gas Appliance Manufacturers Association. Industry-wide electric appliance statistics are based on data compiled by the National Electrical Manufacturers Association and are reprinted by GAMA in its releases. Data relating to oil-fired burner installations are compiled by *Fuel Oil and Oil Heat*. Data on both gas and electric dryer shipments are released regularly by the American Home Laundry Manufacturers Association.

SALES OF GAS AND ELECTRIC RESIDENTIAL APPLIANCES DURING NOVEMBER

(WITH PER CENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR)

	November		October		Ten Months Ending Oct. 31	
	Units	Per Cent Change	Units	Per Cent Change	Units	Per Cent Change
RANGES (including built-ins)						
Gas	157,100	— 2.5	195,500	—10.8	1,678,500	—10.6
Electric	n.a.	—	114,200	— 1.7	1,128,200	—16.3
WATER HEATERS						
Gas	173,300	— 6.0	236,100	+ 5.1	2,187,500	— 9.6
Electric	n.a.	—	66,400	— 8.3	653,400	—14.6
GAS HEATING—Total	81,800	— 1.1	120,800	+ 0.4	841,500	—11.9
Furnaces	60,100	— 4.6	82,500	+ 1.2	612,000	—12.8
Boilers	8,000	— 1.2	13,600	+ 0.7	86,300	+ 2.9
Conversion Burners	13,700	+18.1	24,700	— 2.4	143,200	—15.5
OIL-FIRED BURNER						
Installations	52,258	—19.1	89,940	—11.0	529,168	—10.5
DRYERS						
Gas	n.a.	—	60,530	n.a.	311,100	n.a.
Electric	n.a.	—	125,240	n.a.	689,760	n.a.

n.a. not available

GAS SALES TO ULTIMATE CONSUMERS BY UTILITIES AND PIPELINES DURING OCTOBER

(MILLIONS OF THERMS)

	1957	1956	Per Cent Change
Month of October			
All types of Gas	5,372.3	5,129.0	+ 4.7
Natural Gas	5,238.3	4,985.8	+ 5.1
Other Gases	134.0	143.2	— 6.4
Twelve Months Ending October 31, 1957			
All types of Gas	74,471.2	72,624.3	+ 2.5
Natural Gas	72,204.7	69,336.1	+ 4.1
Other Gases	2,266.5	3,288.2	—31.1
October Index of Monthly Utility Gas Sales (1947-49 = 100)	226.2	216.0	+ 4.7

PERTINENT BUSINESS INDICATORS, OCTOBER

(WITH PER CENT CHANGES FROM CORRESPONDING PERIOD OF THE PRIOR YEAR)

	October			September		
	1957	1956	Per Cent Change	1957	1956	Per Cent Change
Industrial activity (1947-49 = 100)	141	146	— 3.4	144	144	0.0
Consumer prices (1947-49 = 100)	121.1	117.7	+ 2.9	121.1	117.1	+ 3.4
Housing starts, Non-farm (thousands)	95.0	93.6	—	90.0	93.9	—
New private construction expenditures ($ million)	3,050	3,003	+ 1.6	3,102	3,073	+ 0.9
Construction costs (1947-49 = 100)	162.8	155.4	+ 4.8	162.7	155.4	+ 4.7

Bureau analyzes size of gas industry

BASED ON one of the usual criteria, net capital investment, the gas industry is the nation's fifth largest, according to the most recent information available from Internal Revenue Service records. Preceding it are the electric light and power industry, railroads, petroleum refining, and telephone, in that order.

However, it is questionable whether this criterion is the best one to use in comparing a wide variety of industries with dissimilar characteristics.

There are two basic problems which must be considered in any analysis of relative industry size, according to the A. G. A. Bureau of Statistics.

First, one must decide what constitutes an industry for purposes of comparison. For example, do iron and steel establishments constitute an industry, or do blast furnace establishments alone constitute an industry? For the answer to this, the Bureau of Statistics has used the Standard Industrial Classification issued by the U.S. Bureau of the Budget. According to this generally accepted system, major industries such as the utility industry are designated by two-digit code numbers. Subdivisions of these, such as the gas industry, are designated by three-digit code numbers. Therefore, one would compare the gas industry with other three-digit industries.

Second, one must decide what method to use. For industries with high capital turn-over ratios (revenue divided by investment), ranking would be more favorable if *total revenues* are compared. For those with lower capital turn-over ratios such as the gas industry, comparisons are more favorable if *investments* are compared. By the former standards, the gas industry ranks 25th, by the latter, fifth. When these two types of industries are grouped together, some combination of these two comparisons should be used, according to the Bureau of Statistics.

The Bureau has used a composite of revenues and investments giving each equal importance.

Figures were obtained for the year 1954 —the latest year for which complete data for all three-digit industries are on file— from the Internal Revenue Service. For each three-digit industry, total receipts, net profits, net capital assets, and total assets were then added together and divided by four.

Using this procedure, which it is felt recognizes the varying economic characteristics of each industry and is as fair to each of them as possible, the gas industry is the eigth largest industry in the nation, preceded by the following, in order: banks and trust companies, life insurance companies, petroleum refining, electric light and power, railroads, telephone, and motor vehicle production.

In the opinion of the Bureau, it would be a valid statement that the gas industry is the nation's eighth largest. To the extent that the ranking of fifth is used, it is inaccurate unless it is clearly specified that comparison has been made only on the basis of net capital investment.

The varied nature of the committees reflects wide scope of activities, responsibilities

Organize Management committees

Shown are chairmen of Gas Industry Finance and Economics Committee and affiliated committees

William B. Tippy
GIFE

Hall M. Henry
ECONOMICS

R. G. Olmsted
FINANCIAL MANAGEMENT

Depicted here are the chairmen of the standing committees of the General Management Section

E. C. Baumann
ACCIDENT PREVENTION

W. H. Loving
COMPETITIVE SERVICES

R. H. Br... ewton C...
INSUR... ARKETIN... RESEARC...

Organization of the principal committees of the American Gas Association General Management Section has been completed for the 1958 Association year, it was announced by John H. Wimberly, Section chairman. The varied nature of the committees reflects the wide scope of activities and responsibilities that fall under the Section's jurisdiction.

William B. Tippy, president, Commonwealth Services, Inc., is 1958 chairman of the Committee on Gas Industry Finance and Economics. This committee is responsible for all finance and investor relations activities carried on by the Association.

Mr. Tippy began his utility career in 1932 with the Detroit Edison Co. In 1945 he joined the Commonwealth and Southern Corp. in New York as assistant to the vice-president in charge of gas matters. He helped set up the present Commonwealth Services, Inc., an independent service company, and became its president in June 1955. Mr. Tippy has long been active in A. G. A. and General Management Section affairs and has presented papers at several A. G. A. conferences.

Affiliated with the Gas Industry Finance and Economics Committee are the Committee on Economics and the Committee on Financial Management. These are working groups assigned to initiate and carry out activities within their respective areas. The latter committee results from the merger of the Financial Relations and Investor Communications Committees which was carried out because of their overlapping functions.

Hall M. Henry, president, NEGEA Service Corp., is 1958 chairman of the Committee on Economics. Mr. Henry joined the H. L. Doherty Training School in 1919 as a cadet shortly after his graduation from the University of Kentucky. After serving various utility organizations as research director, sales vice-president, and director of gas operations, he went to New England in 1938 as assistant to the president of New England Gas and Electric Association companies, and in 1957 was elected president. Mr. Henry has also been very active in American Gas Association affairs, serving in the General Management and Residential Sections. He is a past president of the New England Gas Association and has received the Beal Award given for the year's best technical paper.

Robert G. Olmsted, vice-chairman of the board, Long Island Lighting Co., is

1958 chairman of the Committee on Financial Management. Mr. Olmsted attended Yale and the Harvard Graduate School of Business Administration and joined his company's accounting department in 1933. Except for a period as a financial analyst for the Empire Power Corp. he has spent his entire business career with Long Island Lighting and its subsidiaries. He became treasurer in 1938, vice-president in 1954, and last year was made vice-chairman of the board.

E. C. Baumann, safety engineer, Public Service Electric & Gas Co., is serving again in 1958 as chairman of the Accident Prevention Committee. The major responsibility of this committee is the dissemination of information and the initiation of educational activities designed to reduce the accident frequency rate of the gas industry. A major project for this committee in 1958 will be the conducting of more than a score of courses of its two-day training school "Accident Prevention Through Informed Supervision."

Mr. Baumann, who is a graduate of St. John's College, Annapolis, joined Public Service in 1938 in commercial sales and was transferred in 1941 to the safety department. He has been active with the Accident Prevention Committee since 1944, has served on various subcommittees, and has several times conducted the training course mentioned above.

William H. Loving, government sales manager, Washington Gas Light Co., is 1958 chairman of the Committee on Comparison of Competitive Services. This committee investigates the need for comparative performance tests in relation to competitive fuels, and supervises these tests when essential data are not available. A committee project for the coming year is the extensive field studies of heat pumps, both gas and electric. This committee was active in sponsoring the just released Zinder report, whose main function is to assist government authorities in setting up valid fuel selection factors to be used in the choice of fuel in government projects.

Mr. Loving earned a gas engineering degree at the Johns Hopkins University. He joined Washington Gas Light Co. shortly after his graduation as a cadet engineer and has since undertaken many engineering and administrative assignments for this company. He served in the U. S. Navy during the war as a Lieutenant Commander and commanded an LST in the Pacific Theatre. He is also active in community affairs at his home in Fairfax County, Va.

R. H. Brandow, insurance department manager, Stone and Webster Corp., is again serving as chairman of the Insurance Committee. The Insurance Committee reviews current developments in insurance, studies possible methods of insurance cost reduction and acquaints the Association membership with such developments and possibilities. The committee serves as a clearing house for queries directed to the Association regarding gas industry insurance practices.

Mr. Brandow attended Ohio State University and Cleveland Law School. He has worked in insurance during his entire business career and has for the past 10 years been with Stone and Webster, where he has gained wide experience in insurance problems of the utility industry.

Newton Croll, 1958 chairman of the Marketing Research Committee, is in charge of system planning for the Philadelphia Gas Works Division of the United Gas Improvement Co. This marks the second year of the Marketing Research Committee's status as a full committee, a development that reflects the increasing importance of marketing research as a tool of gas industry management. The committee oversees and sponsors much of the research undertaken by the A. G. A. Bureau of Statistics and is at present engaged in compiling a handbook to aid utilities in conducting market research.

Mr. Croll was educated as an engineer at the Drexel Institute of Technology and joined Philadelphia Gas Works upon his graduation. His present duties include conducting market surveys, estimating gas sales and load growth expectancies, and developing plans for meeting increased demands for gas. He is an active member of the A. G. A., Pennsylvania Gas Association and the Franklin Institute.

E. F. Hubbard, director of administration, Philadelphia Gas Works Division of the United Gas Improvement Co., is the 1958 chairman of the Personnel Committee. This group, which has the assignment of studying and reporting on employee relations matters in the gas industry, conducts continuing surveys to collect up-to-date data on fringe benefits, wages, absenteeism due to illness, and contract negotiations. One of the problems assigned to it by the Section's Managing Committee is that of recruiting college graduates into the gas industry. The committee has set up a task

(Continued on page 39)

These men are chairmen of two major subcommittees

ewton Croll
ARKETING
ESEARCH

E. F. Hubbard
PERSONNEL

A. H. Cannon
PURCHASING
& STORES

R. W. Fouse
RATE

N. W. Wade
STATISTICS

G. R. Beal
CLAIMS AGENTS

FPC chairman promises every effort to obtain review of this case by the Supreme Court

Memphis case rouses gas industry

By JEROME K. KUYKENDALL
Chairman
Federal Power Commission

The case of the "Memphis Blues", born through a decision of the Court of Appeals for the District of Columbia Circuit and rendered on Nov. 21, 1957, affects the entire natural gas industry.

This decision completely overturned the established procedure which the natural gas industry, consumer interests, and the Federal Power Commission has thought, and the Federal Courts has assumed, was provided by section 4 of the Natural Gas Act.

If this decision stands, a pipeline company cannot file a new rate even if the purchaser has agreed that this might be done. Under this decision, a different rate can be filed and become effective only if the purchaser has agreed in advance to the particular rate which is to be filed, or the FPC has, under section 5 of the Natural Gas Act, completed an investigation and hearing, and issued an appropriate order.

The Memphis decision is an extension of the doctrine of the Mobile and Sierra cases, decided by the Supreme Court on Feb. 27, 1956, wherein that Court held that the rate in a long term contract for the sale of gas and electricity could not be changed by the unilateral filing of a new rate subject to possible suspension by the Commission under section 205 of the Federal Power Act or section 4 of the Natural Gas Act.

Mr. Kuykendall delivered this address Jan. 3 before the New York Society of Security Analysts.

It should be pointed out that the facts in the Mobile and Sierra cases would, I believe, tend to cause any judge who was unfamiliar with the regulatory process, to be sympathetic with the purchasers, the prevailing parties in those cases. Those cases are, in my opinion, excellent proof of the truth of the old adage that "hard cases make bad law."

Mr. Kuykendall said he is hopeful that the Court will hear the case during this term

It was generally thought that the effect of these two decisions could be overcome by a provision in the service agreements similar to the one which, in the Memphis case, has now been held to have no efficacy. If the Memphis case becomes the law of the land, it would seem to follow that all pipeline companies which presently are collecting increased rates subject to refund under section 4 must refund all of such sums to their customers.

As of Nov. 1, 1957, the total amount being collected subject to refund was about $217 million per year, and the total amount subject to refund for the total time all existing suspended rates had been in effect was approximately the same amount. Indeed, it may rather logically be contended that all rate increases obtained at any time since the passage of the Natural Gas Act, by unilateral rate filings under section 4, are a nullity and must be refunded, with the possible exception of those cases which were settled by agreement of all parties and with approval of the Commission.

What does the FPC propose to do under such circumstances? The FPC will do all it can to obtain a review of this decision by the Supreme Court. The solicitor general, with the cooperation of the FPC, has already filed with the Supreme Court a petition for certiorari. If certiorari is granted, the FPC will supply pertinent and factual information to the solicitor general to assist him in urging the Supreme Court to give some priority to this case. The solicitor general and his staff appreciate the importance of this case.

I confidently expect that the Supreme Court will grant certiorari. I am hopeful that the Court will hear and decide this case during this term. Of course no one can make a positive prediction as to what the Court's final decision will be.

In the meantime, we will do our best, with due regard for the rights of consumers, distributing companies, pipelines, and producers, to maintain equilibrium in this vast segment of our nation's economy. The Memphis decision will not be binding on the FPC until

the mandate from the Court of Appeals reaches us. This mandate will not issue unless the Supreme Court denies certiorari. If the Supreme Court grants certiorari, no mandate will issue until the Supreme Court has finally disposed of the matter.

There is ample precedent for the FPC not to accept the doctrine of a court decision as applicable to other parties in other cases until that particular decision has become final. The Phillips Petroleum case is a recent example. The Court of Appeals held that Phillips was a natural gas company in May of 1953. The Supreme Court affirmed that result in June, 1954. During that interim the FPC did not attempt to force Phillips and other independent producers to comply with the Natural Gas Act.

To do so would have been fruitless as well as inconsistent with the Commission's position in the Supreme Court. Undoubtedly any independent producer would have resisted any effort of the FPC to assert jurisdiction over him during that period and would have utilized appropriate court action for that purpose. The only result of such untimely efforts by the Commission would have been the creation of a great volume of litigation.

The Memphis decision presents an analogous situation. So long as that decision is not final, any appealable order issued by the FPC which is based on the principle involved in Memphis, whether in accord with, or contrary to it, will be appealed. The creation of such a mass of litigation clearly would not be in the public interest, and can, I hope, be avoided.

Nevertheless, the FPC, in an effort to avoid unnecessary litigation will not endeavor to irreparably prejudice any rights any one may now have, or hereafter acquire, if the Memphis decision becomes the law of the land. Although the FPC does not recognize Memphis as final or binding in any manner at this time, the FPC has not ignored the possibility that it may become so.

In an order issued this week, the FPC declined at that time to pass on a motion to dismiss a pipeline rate case, filed pursuant to section 4. In the same order, however, the FPC ordered the pipeline company to post a bond for the entire amount of the increase or supply other satisfactory evidence of ability to refund the entire amount. Personally, I believe that by such action, we have done the best that could be done, in this situation, to protect the public interest.

What is in store for investors in natural gas pipeline securities if the Memphis case is not reversed? I do not believe that this industry necessarily must become bankrupt if this decision stands.

The demand for natural gas is as great now as it was before the Memphis decision. There is still a market and a seemingly insatiable demand for the product. Unlike an old overcoat or automobile, old gas supplies, previously used, cannot be made to serve longer. Where there is a demand and a supply, sales and purchases will be made. Thus the essential ingredients for a healthy industry remain.

Some pipeline companies are hopeful that they can reach a settlement of their pending cases with their customers. The City of Memphis has been an active and willing participant in such negotiations. Numerous distributing companies fully realize that neither they nor their customers want a refund which bankrupts the long distance transporter and terminates or even jeopardizes future service.

Face large refunds

A number of the pipeline companies which would have to refund large sums would also receive large refunds from other pipelines from whom they have purchased. Some would receive more than they would have to refund. All companies which had to make refunds would have the right to obtain a refund of the resultant over-payment of income taxes.

The opinion in Memphis directed the Commission to reject the rate schedules filed by United Gas Pipeline Company. It follows that all companies similarly situated would have to do likewise, but there is another principle, not mentioned or considered by the Court, which, it seems to me, may come into play. Would the constitutional provision against confiscation of property protect a regulated company in a business affected with a public interest from refunding money to the extent that it thereby became bankrupt and thus was no longer able to render necessary service to the public?

I doubt if the Court comprehended the magnitude of the result of what it was doing, and realized that in addition to dealing with the price of gas to the City of Memphis, it was setting a precedent involving, as of now, more than two hundred million dollars in refunds.

Consequently, I doubt if the Court considered the constitutional point just mentioned, or considered whether or not United Gas Pipeline Co., or any company similarly situated, would be entitled to have a quantum meruit recovery for gas delivered, if it is not entitled to the filed rate. Those questions were not covered in the Memphis decision.

I don't profess to have unequivocal answers to them, but I will repeat that I find it difficult to believe that the Memphis decision will ultimately cause the bankruptcy of an important part of the natural gas pipeline industry, and thereby prevent the public from getting the natural gas service it needs and deserves.

A number of pipeline companies had expected to raise substantial sums of money for expansion during 1958. As you know, such expansion must be approved by the FPC before it can take place. In other words, FPC has found that it is in the public interest that the facilities of certain companies be enlarged, and has found such expansion to be feasible. It would be regrettable indeed, if this needed expansion did not take place as scheduled. The public needs the additional and improved service which would thereby be rendered, and at this time, particularly, our economy needs the benefit of the expenditure of these many millions of dollars for plant construction.

Necessity is the mother of invention. Let us all do our part in a great effort to keep the natural gas industry alive, strong, and growing. I suspect that we may find that a rate case under section 5 can be processed in much shorter time than was ever thought possible. We know that in such a case, the pipeline company would supply all the data that our staff would request, as soon as it possibly could.

When the customer companies realize that additional supplies of needed gas cannot be forthcoming until the pipeline company is first granted reasonable rates, it would seem that they would likewise cooperate to bring the case to a speedy conclusion. The FPC and its staff will do everything they can to expedite their work, so that our economy will not suffer unnecessarily, and to the end that the public will get the increased natural gas service it requires.

All of us have heretofore considered that section 5 was enacted for the pur-

pose of providing a method of lowering rates, and have not considered its use in passing on applications to increase rates. It may be found that our rules and procedures should be revised in view of this changed situation.

I am sure the FPC will revise its procedures in any way that is found to be proper and necessary to expedite action, and in so doing would be limited only by existing law and protection of the public interest.

Perhaps you people who play a part in the marketing of pipeline securities can revise your procedures and your customary way of doing business and find ways of doing your part in keeping the natural gas industry healthy and able to render service. I urge you to try your utmost to do so. In times of economic crisis, the psychological factor may tip the scales one way or another. Let us see that we who are in a position to affect psychological reactions say and do those things which will prevent a panic where no panic is called for.

The effect of the Mobile, Sierra, and Memphis decisions can be corrected by appropriate legislation, although such legislation could only operate prospectively. The Commission is already on record as favoring such legislation, having taken such action long before the Memphis decision.

Such a recommendation will appear in the Commission's annual report which is now being printed. Congress has many times demonstrated that it can act speedily when the need to do so has been shown. The FPC will support such legislation, and I do not know of any interests or groups which would oppose it if they ascertain and understand the facts.

There may be some good which will come out of the present difficult situation. Some people, both in the natural gas industry and in the political field, have over-simplified the various problems of the natural gas industry. They have believed, or have acted as though they believed, that each issue merely presented the question of "whom are you for?—the consumer or the industry?"

Such persons have, for example, opposed a rate increase as an inherently evil thing, without any regard to the question of whether a rate increase was necessary in order for service to be rendered, and have opposed any legislation supported by any segment of the industry, apparently on the theory that if the industry wants it, it's bad for consumers. (Let me make it clear that I referred to "some people" only, in the preceding sentence.)

The Memphis decision is forcing such persons to face reality and to admit that, after all, a pipeline company must remain solvent if it is to render service. There seems to be good reason to hope that the present difficult situation will ultimately lead to creation of a better environment in which to dispose of regulatory problems.

It is always difficult for a member of a regulatory commission to speak on a subject of current interest in his field. If he succeeds in avoiding any comments which could, in or out of context, be deemed as an indication of what his commission may do in certain cases in the future, he also succeeds in boring and disappointing his listeners.

If he succeeds in saying anything of interest or value to his audience, he subjects himself to the criticism that he has pre-judged issues before him. In what I have said to you today, I have tried to make a fair appraisal of the existing serious situation.

Meet your Association staff

Vaughan O'Brien

Vaughan O'Brien has never claimed to be an expert on the Civil War, or guided missiles, or anything else. He's one of those pre-quiz program people who are interested in everything, without worrying about what category it's in.

He's an avid reader of anything from best sellers to boxtops, and the days he's missed reading "The New York Times" are few indeed. He'll tell you that "the best reason for living in New York is 'The Times.'"

Yet no one has ever accused Mr. O'Brien of being a bookworm. During his years at high school and the University of Utah, he worked summers as a hay hand on a large cattle ranch in Montana, as a choker setter at a logging camp, and a roustabout at construction sites. At one time he shipped for six months as a sailor on a freighter.

His early choice as a career was newspaper work, and he spent several years working on newspapers in the West. He later joined the story department of Columbia Pictures, from there moved to an editorial job with "Motion Picture Daily," and then to the gas industry via Moore Publishing Company.

At Moore, he served as editor of "Gas Appliance Merchandising" and managing editor of "Gas Age." In '54 he left to become editor of the "A. G. A. Monthly," and about a year ago was promoted to secretary of the General Management Section.

At the moment, Mr. O'Brien is faced with not one, but two full-time jobs. The first is making preparations for the forthcoming General Management Section conference, and here his editorial experience forbids him to pass up the chance for a plug —"It'll be held March 31-April 2 at the Shoreham Hotel in Washington, D. C., and anyone planning to attend should send in reservations early."

The second job wouldn't come under general management on an organizational chart, but it does take the same skills. It involves "trying to keep one step ahead of my son David, who'll be thirteen on February 15, and my daughter Janie, who'll be six somewhere between February 28 and March 1."

Cincinnati Gas and Electric Co. shows how to boost business with volume air conditioning sales

Air conditioning potential huge

By J. ROBERT DELANEY

Sales Manager, Gas Department
Cincinnati Gas & Electric Company

The industrial and commercial air conditioning market, spurred by the building boom and the public demand for air conditioned hotels, theaters, hospitals, restaurants and industrial establishments, has accelerated to an almost unlimited horizon.

The load building potential offered by air conditioning must have us all chafing at the bit. Our industry must fully appreciate the desirable load characteristics, the attractive margins, and the operating flexibilities which stem from industrial and commercial sales.

When it is possible to add such an attractive load in chunks as large as the 6,300 ton installation at Idlewild International Airport in New York, or the 12,000 tons at Exchange Park in Dallas, appreciation comes easy.

It is equally easy to see why large volume air conditioning is our bird in the hand. We have the equipment to sell. In the industrial and commercial field, excellent air conditioning equipment priced competitively and more often than not providing long term economic advantages is available from many manufacturers. The Carrier Corp. has made large volume absorption type air conditioning so popular and economically attractive that the York Corp. has entered this field within the last few months. Our industry now benefits from the sales influence of such companies as Carrier, York, Arkla-Servel, and Readypower.

There is reason to expect that other companies prominent in the air conditioning field will soon produce gas fueled equipment. In a single unit the present manufacturers enable us to handle any load from three to 705 tons.

A huge sales potential exists for large volume air conditioning. There is no better way to illustrate this than by a short recital of what was done by the Cincinnati Gas & Electric Co. to promote and sell large volume air conditioning.

With industrial air conditioning in infancy, prospect list easy to make

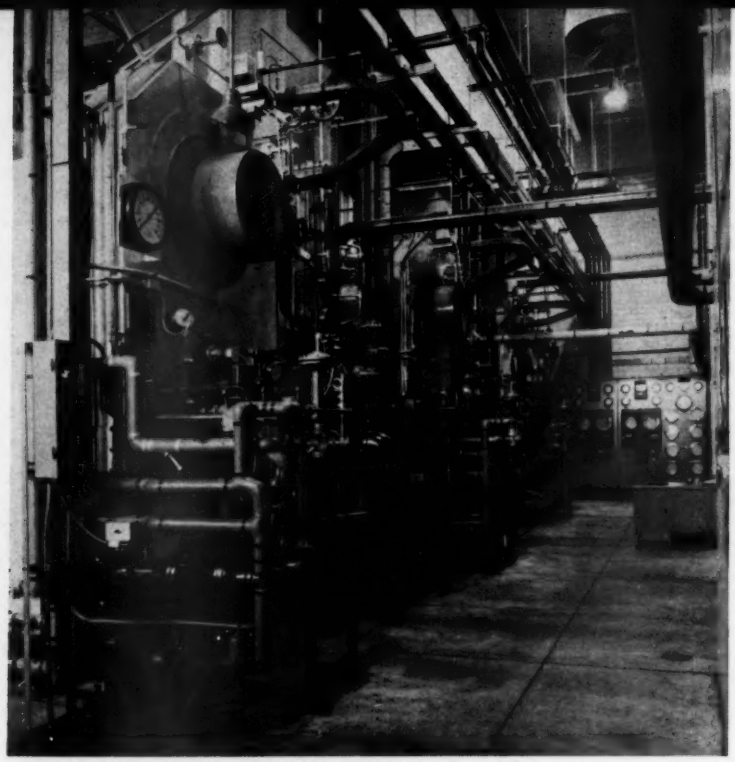
In the early 1930's, two units were available for industrial and commercial air conditioning applications—Kathabar and Bryant. The former system was for the control of humidity by means of drying air after which it had to be refrigerated. Lithium chloride was the active agent in this system. The other system used silica gel for the same purpose.

These units provided a tool that was used in the chemical industry and in many other applications where desiccants were indicated. The major problem connected with such equipment when used for air conditioning was, and still is, the need of an after cooler to lower the resultant temperature rise following the removal of moisture.

The need of an after cooler was a major deterrent in the installation of the equipment, for at that time, all after coolers were electrically driven and of the compressor type. These had already received public acceptance and rather than split orders the sale was given to the manufacturer of electrical equipment.

With industrial air conditioning in its infancy, the development of a large list of prospects was a relatively simple matter. Manufacturers were interested and tremendous savings were possible. Yet the gas industry, because of a lack of generally acceptable equipment, saw this lucrative business taken by the electric industry.

The first encouraging development in gas air conditioning was offered to our industry by Servel, Inc. This company, now the Arkla-Servel Corp., currently offers units varying in capacity from three to 25 tons. Several years ago the Carrier Corp. developed absorption equipment units for this market in capacities ranging from 60 to 705 tons which put new life into hopes for future



Three Babcock and Wilcox type 800 BHP FM package boilers in Good Samaritan Hospital

Gas air conditioning (530 tons) [illegible]

gas air conditioning business. At the same time, other manufacturers were showing interest in gas air conditioning.

Research projects were instituted and test units were used successfully. The road, however, proved a tough one. The gas industry, through the American Gas Association, then developed research to attract and aid manufacturers in the production of equipment that could be made at a unit cost and would be competitive with the then existing air conditioning equipment.

During these formative years, competition continued to develop, improve and offer new models. Unquestionably, they gained public acceptance. With the current window unit, they are much in the same position as the gas industry was a few years ago with regard to space heaters as opposed to central heating. The electric industry has already experienced summer humps they can ill afford without some compensating that will help maintain a level load curve.

The Cincinnati Gas & Electric Co. is a combination company. Several years ago the management became concerned with the growing summer hump caused by air conditioning in the electrical send-out. The sales department was asked to do what they could do to promote gas for this purpose.

At that time the company was limited in the number of manufacturers of gas air conditioning equipment. In large size equipment the Carrier Corp. had the only proven absorption system that could be promoted. The first step towards securing the gas air conditioning load consisted of giving one of our best sales engineers the responsibility and the use of the entire sales department to acquire it. This engineer visited with manufacturers of such equipment and attended their schools. He called on other utilities in order to determine what progress they had made and how they had gone about it. The reports were not encouraging. Architects and engineers were called upon and told the gas air conditioning story. Again the reports were not encouraging. The entire department called on builders most of which were not interested in deluxe equipment. They were interested in price and price only. With the cost of residential gas air conditioning running from $700 to $1000 and higher than competitive models, the results were even more discouraging.

Management subsequently approved a substantial amount for advertising air conditioning. It was not believed that newspaper advertising was the answer. The company had a nonmerchandising policy and the advertising was institutional in character.

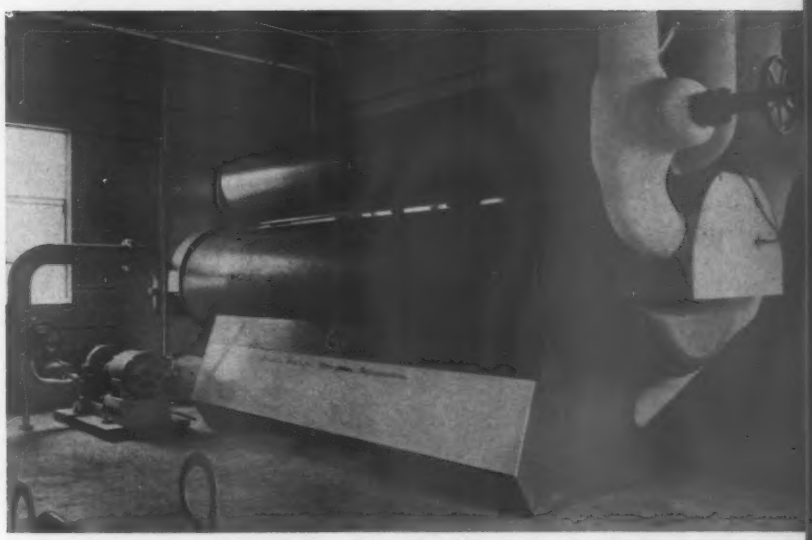
The *Engineering Scientist,* a bulletin issued weekly and distributed to all members of Cincinnati's engineering societies, was chosen as the media. It was planned to expand this advertising as business grew.

At the end of six months, our sales engineer had worked prodigiously and accomplished very little. He was discouraged and was not receiving the cooperation of the other divisions of the sales department. A meeting of the entire department was called and the importance of this summer load was pointed out. A strong request for complete cooperation of all members of the sales department was made.

Every notice of new construction, particularly industrial and commercial, has been followed up with a call by both the industrial and commercial representative and the air conditioning engineer. In less than a year, progress had been made toward capturing this valuable summer load. Every day the industrial supervisor contacted each of the men and since that meeting the results of diligent effort were reflected in actual sales and good prospects.

As a result, there are now on the lines of the company a 400-ton job in a soap company, a 340-ton installation in a greeting card plant, 540 tons in a hospital, 300 tons in a large manufacturing

tons) i talled in wing of Cincinnati's Good Samaritan Hospital



This 340-ton Carrier absorption unit is in the Briggs Mfg. Co.'s factory roof penthouse

plant and 300 tons more in another hospital. In addition there have been obtained tentative acceptances of a 650 ton unit which will be installed within the next two years in still another hospital.

A large electrical manufacturing company is favorably considering a 300-ton installation and a paper plant constructing a new offce building is sold on a 150-ton installation. A boys' club has signed up for 60 tons. With other installations, the company has some 3,600 tons added to the lines in less than a year. A large backlog of prospects has been built up and the future of large volume air conditioning looks very encouraging.

The volume of business that has been secured in less than a year is estimated at 1.2 per cent of the current summer daily load. This has been secured with little additional expense. The company has used what facilities it had and it is believed that success will result.

Complete cooperation has been forthcoming from the Carrier organization and the company is backing them 100 per cent. There will undoubtedly be others who will manufacture and promote air conditioning equipment for which gas can be used and the company plans to broaden its approach as others enter this field.

That a huge sales potential exists is indicated by reports and information gathered from trade publications. A report on the hotel market for air conditioning published by Manufacturers Service and Research, a division of Ahrens Publishing Co., states that 1,029,-210 guest rooms involved in the study only 38 per cent are currently air conditioned. If this percentage is applied to the hotel industry's total guest room count of 1,597,000 rooms, it is possible that the hotel industry alone offers air conditioning manufacturers and the gas industry an over-all potential of almost one million guest rooms on which to set sales sights.

A broader look covering the whole institutions market which includes the mass housing and mass feeding industries as well as schools, office buildings, military installations and other state and government institutions paints an even more attractive picture. Institutions spent in 1957 more than $9 billion for new construction and an estimated $13 billion for modernization and expansion. Forced by the pressure of public demand, it can readily be envisioned that complete air conditioning will be universally adopted by the institutions field.

As shown in surveys reported in *Air Conditioning and Refrigeration News*, the institutions field alone, which represents only a portion of total industrial and commercial customers, has dominated at least 25 per cent of the air conditioning industry's total market for over 10 years. Yet this market has only been dented. In Miami, with its high temperatures and where accommodations are noted for their comfort, there is a total possible commercial market of 22,-270 customers of which only 1,888 have air conditioning. Even in this area the market has only begun to be tapped.

A market survey for residential air conditioning conducted by *Heating, Plumbing, and Air Conditioning News* unearthed some startling facts regarding the business of wholesalers and contractors.

Thirty-six wholesalers of residential air conditioning from 10 different cities were asked what their principal business was. Most said that their business was divided among several functions, so that the total is greater than the number of wholesalers. Here are the results:

	No. Mentions
INDUSTRIAL AND COMMERCIAL AIR CONDITIONING	17
Heating—one or more types	16
RESIDENTIAL AIR CONDITIONING	7
Warm air heating	6
Refrigeration	5
Plumbing and heating	4
Fuel Oil	4
Appliances	1

These are the men who have been

(Continued on page 38)

D. W. PETERSON, *CHAIRMAN* • J. G. ROSS, *VICE-CHAIRMAN*

Section places equal emphasis on all phases of accounting function for forthcoming year

1958 accounting activities planned

New Year's resolution for the Accounting Section: Continue the progress in 1958 that in 1957 and recent years changed the accounting profession from the drab to the dynamic!

Although Donald W. Peterson, 1958 Section chairman, probably wasn't thinking in terms of New Year's resolutions when he addressed the organizational meeting last September, he nonetheless expressed the confidence that the present Section leaders would come through in traditional style.

No central theme was established for 1958 when more than 300 members attended the Organizational Meeting Sept. 19-20 in Minneapolis. Instead, Chairman Peterson placed every activity from customer relations to general accounting on an equal level of importance, and said the responsibility of each activity belonged to every Section member involved whether he be a coordinator, chairman, vice-chairman, or committee-man.

Mr. Peterson introduced Gerald T. Mullins, president of the Minneapolis Gas Co., who extended a cordial welcome to those in attendance.

The Section chairman commended those committees who already had gotten underway through advanced planning by screening committees. He pointed out that changes are being made in the program of the A.G.A.-EEI Accounting Conference to be held in Houston, Texas, April 14-16. He said the general session will begin Monday, April 14, at 10 a.m. rather than 2 p.m. as originally planned, and that there will be two general activity and two customer activity sessions. This means, Mr. Peterson said, that the conference will be a full three-day meeting as opposed to the two and one-half day conference formerly scheduled.

D. W. PETERSON (l.), Accounting chairman, has been Section vice-chairman, General Activities Group coordinator, General Accounting Committee chairman, Accounting Development Service Subcommittee chairman. He is Minneapolis Gas secretary-treasurer

J. GORDON ROSS (r.), Accounting Section vice-chairman, has served as coordinator of Customer Activities Group and twice as chairman of the Customer Relations Committee. He is manager of Service and Customer Relations for Rochester Gas and Electric Co.

Each standing committee appointed a liaison member to cooperate with the Electronic Accounting Machine Developments and the Accounting Developments Service Committees in order to centralize all available information on new machine improvements. Also, in addition to the regular committee work, each was charged with the responsibility of providing articles for publication in the A. G. A. MONTHLY and subjects for presentation at the A. G. A. Convention.

After the group was informed as to the procedures to be followed and what was expected to be accomplished, the general meeting was adjourned and each of the various committees met separately. After two days of conferences, the following tentative programs were prepared by the committees.

In the Customers' Activities Group, the *Customers' Accounting Committee* selected projects involving the study of the following:

1. Methods of processing and expediting irregular bills.

2. Evaluation or comparison of methods and results attained as a result of mark sense meter reading, and a survey of the various methods used to record meter reading and history data.

3. Practices to cope with missed readings.

4. Methods of billing and accounting for large commercial and industrial customers.

5. Mechanization trends in the small utility.

6. Mechanical aids to handle customer service requests.

7. The committee will present a panel discussion of electronics and customer accounting and two projects at the Customer Activities Group meetings as follows:

(a) Centralization of customer accounting records versus de-centralization.

(b) A study of shut-offs, turn-ons, and final billings.

A paper will be prepared for the A. G. A. MONTHLY on the subject, "Ways and Means to Encourage Customers to Include Coupons of Bills When Mailing Remittances."

The *Customer Collections Committee* will undertake the following projects:

1. A study of the credit picture, 12 months ended Dec. 31, 1957, including statistical analyses and comparisons.

2. A study of effective techniques used within the industry for the collection of final bills.

3. A study encompassing deposits and the collection of current accounts within certain designated areas, problems involved in the use of fictitious names, etc.

For the Houston Conference, there will be a luncheon panel on "Current Collection Problems and How They May Be Solved."

At the Customer Activities group meetings at Houston, this committee will participate in the panel discussions of the subjects, "Centralization or Decentralization" and "Final Bills."

The *Customer Relations Committee* has selected six projects for development as follows:

1. A study of customer opinion surveys.

2. A report on information centers under electronic data processing systems to provide customer information.

3. A program to make employees in all departments conscious of their part in development and maintenance of good customer relations.

4. Selection and training of public contact employees.

5. The value of centralized telephone systems for customers' calls.

6. The latitude to be given customers' representatives in making adjustments that involve company money.

Members of this committee will also participate in the panel discussion on "Centralization and De-centralization," as well as the discussion on "Final Bills."

The *Accounting Employee Relations Committee* will undertake to develop the following projects:

1. Selection of personnel for an electronics program.

2. The need for thorough instruction of each accounting employee before starting on a new assignment.

3. The need for outside educational facilities for training supervisors.

4. The need for moving meter readers to other jobs after two years.

5. The desirability of using the vast reservoir of part time workers available.

6. The need for using more mature people in accounting work.

In addition to the above, a panel discussion will be held at the Houston Conference covering employee relations problems generally.

In the General Activities group, the *General Accounting Committee* has selected for study and final development this year—

1. A progress report on all aspects of responsibility cost accounting.

2. Accounting for all types of non-productive time.

3. Effective yardsticks for measuring the reasonableness of operating budgets.

4. Improving accounting service in the field to save dollars.

In addition, projects have been selected covering all phases of work simplification and its techniques by the Methods and Procedures Group; Accounting Practices used for control of maintenance expenses; Overhead Costs; and a Directory of General Accounting Methods and Equipment.

Continuing projects include a study of annual reports and a survey of new accounting developments affecting utilities.

The *Depreciation Accounting Committee* will undertake:

1. To study methods of associating net salvage with retirements of plant installed prior to 1954 and with retire-

L. J. RAUH, coordinator of Customer Activities Group, is with Baltimore Gas and Electric Company

H. C. GARVENS, chairman of Customer Accounting Committee, is with Milwaukee Gas Light Co.

C. W. DANIELS, chairman of Customer Collections Committee, is employee of Northern Illinois Gas Co.

N. F. SCHABERG, chairman, Customer Relations Committee, is with Michigan Consolidated Gas

CONRAD F. MILLS, coordinator of the General Activities Group is with Philadelphia Electric Co.

G. D. PORTER, chairman of Depreciation Accounting Committee, is employed by Equitable Gas

OHMER ULLERY, who is chairman of the General Accounting Committee, is with The Ohio Fuel Gas

GORDON SEVERA, chairman of Internal Auditing Committee, is with Northern Natural Gas Co.

C. A. GRACY JR., chairman, Plant Accounting and Property Records, Long Island Lighting

H. S. HOWARD, chairman of Taxation Accounting Committee, works at Niagara Mohawk Power

D. S. LORD, chairman, Accounting Employee Relations Committee, Public Service Electric & Gas Co.

ments of plant installed since 1953.

2. To observe the progress of bills presently before Congress to modify or withdraw liberalized depreciation, and to determine what action the committee should take.

3. To continue a long-range project of study of problems of net salvage, and to present an interim report at the Houston Conference.

4. To continue a long-range study of the use of electronic computers and other types of office machines for depreciation computations.

5. To compile and digest court and regulatory commission decisions.

6. To continue a long-range study of atomic energy plant life.

7. To study problems in connection with reimbursement for relocation and construction of new lines due to requirements of new highway construction or requirements of private enterprise.

8. To study methods of accruals and depreciation reserve computations by various companies as regulated in the orders of regulatory commissions.

The *Plant Accounting* and *Property Records Committee* will develop the following subjects:

1. Study of forms and work sheets used in plant accounting and continuing property records work.

2. Study of the amortization of minor tools and equipment.

3. Study to determine company practices concerning the charging of depreciation for Property Held for Future Use (account 100.4) and Other Physical Property (account 110).

4. Preparation of a property unit catalogue for atomic energy power plants.

5. Study of accounting for telemetering, supervisory control, and carrier current equipment.

6. Use of standard unit costs in unitizing mass property.

7. Problems in control and billing in connection with the joint use of poles with the telephone company.

8. Accounting for major production projects.

9. Establishment of engineering and general administrative overhead rates for construction.

10. Machine accounting applications to property record problems.

11. Accounting for temporary construction in connection with construction projects such as by-pass lines, use of portable substations, etc.

12. Study of records maintained for reimbursements received from government agencies in connection with highway programs.

The *Internal Auditing Committee* will undertake to develop the following projects:

1. Careful studies to gather information regarding specific instances where an auditor's findings resulted in strengthening of internal controls, standardization of methods, or control procedures, elimination of duplicate efforts, or simplification of work.

2. A study of electronic accounting machine developments and the effect upon internal auditing.

3. Measuring and comparing internal auditing performance.

In addition to the above, this committee will develop three projects concerning auditing procedures which will be published as a part of the Internal Auditing Procedure Manual as follows:

(a) Audit of Distribution Department.

(b) Audit of Personnel Department records.

(c) Audit of Taxes.

As a special project, they will undertake statistical sampling to develop a program in non-technical language for use in verification of accounts receivable; to determine what other auditing areas might lend themselves to the use of sampling techniques and to report on these activities at the Spring Conference.

The *Taxation Accounting Committee* met in October and plans to meet again in February. There will also be an open session at the Spring Conference at Houston, at which an outside speaker will be presented.

The special committees of the Section are likewise diligently working on their programs. Among these, the *Accounting Developments Service Committee* will, in addition to its regular role of disseminating to the industry information regarding the latest in office equipment, participate in the panel on "Centralization vs. De-centralization."

The *Electronic Accounting Machine Developments Committee* presented a successful Electronics Seminar early last month in Detroit on the theme "Electronics at Work" as part of its program. (See story, elsewhere in this issue.)

Chairmen of A. G. A. Accounting Section special committees

Emmet White
Steering Committee
Electronics Research
Electronics Accounting
Machine Development

H. M. Ruth Jr.
Accounting
Developments
Service

Emanuel Toder
Application of
Accounting Principles

James A. Laing
Accounting Section
Compendium

J. F. Daly
Uniform System
of Accounts

The *Steering Committee* for the *Electronics Research Project* at Harvard University has made satisfactory arrangements to bring about completion of the project in 1958.

The *Committee on Uniform System of Accounts* is keeping abreast of developments in this field as is the *Committee on Application of Accounting Principles*. Likewise the *Compendiums Committee* is on the job, and along with a parallel EEI committee, will publish a summary of all articles and papers developed over the past several years.

All standing committees have held their own meetings since the Organization Meeting.

In February, the results of their work will be reviewed and the program completed for the Houston Conference, which, while the first to be held in the deep South, promises to be one of the best ever.

Capehart housing

(Continued from page 10)

In our opinion it is far more important to work with the engineers and see that their report is fair and accurate, than it is to prepare an elaborate analysis which will not be favorably considered when the chips are down.

Our contacts with military people have revealed several partially justified criticisms of the gas industry. They say that some gas companies have been very reluctant to write a firm proposal giving in the first letter their best rates or best proposals to serve when some plant extension is necessary. Gas companies have not always been sure that gas appliance manufacturers would quote bidding contractors prices that were equal to those listed in elaborate analyses prepared by those gas utilities.

In our routine contacts with the civilian, military and independent engineers, we must not overlook the need to stress the dependability of our service. It can be admitted that a forced air heating system may not function properly with an electric power interruption, but a gas furnace along with other gas appliances in a residence could keep a family warm over an extended period in an emergency. No such arrangements can be made in the all-electric home.

While we are talking about routine contacts, I would like to add that I think we would be very foolish to confine our interest in air conditioning on military bases only to Capehart housing units. On every base where Capehart housing is proposed, there are existing and planned installations running into the hundreds of tons for administration and operations buildings.

In closing, there are four important steps which should be emphasized for any successful program to secure gas service in Capehart projects.

(1) Be there in the beginning and get acquainted with the base engineering personnel. By all means, give them a copy of the Zinder Report and initiate some kind of working arrangement with them which makes you or your organization helpful.

(2) Follow the same procedure with the architect and consulting engineer as soon as they are selected.

(3) Be sure the bidding contractors and sub-contractors get competitive gas appliance bids in on time.

(4) Keep advised of all decisions that are being made for or against you, and never take it for granted that you have the business until you have a signed contract.

Symposiums on gas air conditioning cancelled

THE GAS INDUSTRY'S enthusiastic support of the American Gas Association's air conditioning program has made it unnecessary to hold a series of symposium meetings scheduled for January and February throughout the United States. W. W. Selzer, chairman of the A. G. A. Air Conditioning Promotion Committee, said the tremendous response by utilities and manufacturers has resulted in cancellation of the following symposiums:

Jan. 15, New York; Jan. 17, Boston; Jan. 28, Cleveland; Feb. 4, St. Louis; Feb. 7, Los Angeles; Feb. 12, Dallas, and Feb. 14, Birmingham.

When the Promotion Committee was established in June, one of its primary goals was to stimulate utility sales programs in 1958. It was hoped that at least 4,600 direct-fired residential gas absorption air conditioning units would be sold. Utility commitments for 1958 have already surpassed this goal by more than 50 per cent.

The Promotion Committee is concentrating now on producing an effective "how-to-do-it" Plan Book of action for utility air conditioning programs. This Plan Book, "Steps to Success," will include material originally scheduled for the symposiums as well as data assembled by the A. G. A. Industrial and Commercial Air Conditioning Subcommittee. It will also include economic studies on the importance of gas air conditioning and an important new survey made on the low service cost of direct-fired gas absorption equipment.

An extensive advertising program on gas air conditioning has been scheduled for this year. More than 40 full page ads will appear in such publications as House and Home, American Builder, Practical Builder, Good Housekeeping, House Beautiful's Building Manual, House and Garden's Book of Building, New Homes Guide, and Today's Home.

VICTOR F. BITTNER, *CHAIRMAN* · HERBERT C. JONES, J. T. INNIS, *VICE-CHAIRMEN*

Managing and Executive Committees

Section Chairman: V. F. Bittner
The Peoples Gas Light
and Coke Company

Section 1st Vice Chairman: H. C. Jones
Gas Division
New England Electric System

Section 2nd Vice Chairman: Joe T. Innis
Northern Natural Gas Company

Standing

MANUFACTURED GAS SUPPLY DIVISION

MANUFACTURED GAS PRODUCTION COMMITTEE

Hugh T. Maloney
Philadelphia Gas Works
Division of The U.G.I. Company

DISTRIBUTION AND CUSTOME SERVICE DIVISION

DISTRIBUTION COMMITTEE

R. C. Holcombe
Philadelphia Gas Works
Division of The U.G.I. Company

CUSTOMER SERVICE COMMITTEE

Daniel L. Drake
Baltimore Gas and
Electric Company

This pictorial presentation shows the officers of the Operating Section for Association year 1958 and the chairmen of the Section's eleven main standing committees for the same period.

These committees held their organization meetings in September, to review their past year's activities and to plan for the year ahead.

Committees

NATURAL GAS SUPPLY DIVISION

TRANSMISSION COMMITTEE

A. L. Roberts
Texas Gas Transmission Company

UNDERGROUND STORAGE COMMITTEE

H. L. Freuchtenicht
Michigan Gas Storage Company

TECHNICAL SERVICES DIVISION

AUTOMOTIVE & MOBILE EQUIPMENT COMMITTEE

W. B. Haas
Northern Natural Gas Company

CHEMICAL & ENGINEERING COMMITTEE

George G. Dormer
The Manufacturers Light and Heat Company

COMMUNICATIONS COMMITTEE

John R. Beckwith
Washington Gas Light Company

CORROSION COMMITTEE

Charles L. Woody
United Gas Corporation

GAS DISPATCHING COMMITTEE

Calvin Scott
Oklahoma Natural Gas Company

GAS MEASUREMENT COMMITTEE

E. N. Armstrong
Transcontinental Gas Pipe Line Company

Invention quickly finds defective insulators

By THOMAS SNEDDEN

Corrosion Engineer
Northern Illinois Gas Co.

The author, Thomas Snedden (l.) demonstrates his award-winning device to E. D. Sheehan, Northern Illinois utility vice-president. Snedden won $3,000

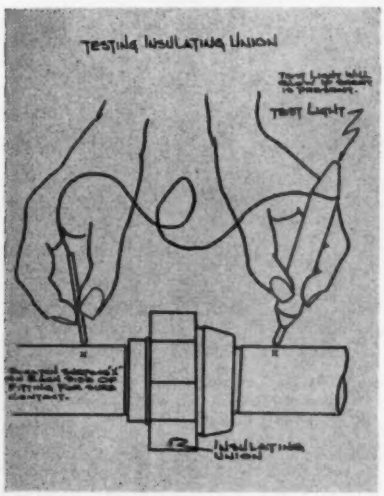


Figure 1

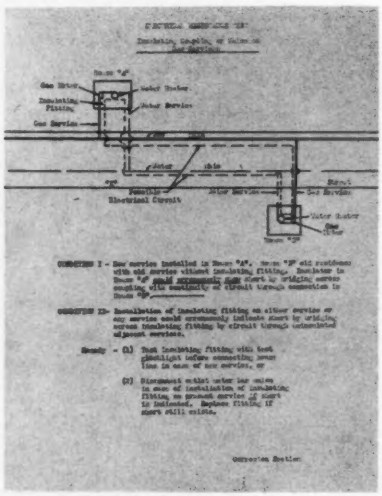


Figure 2

The goal of every corrosion engineer is for complete and economical cathodic protection to his company's plant.

This is true of the Corrosion Engineering Department of the Northern Illinois Gas Company as the increasing cost of new installations and replacements as well as leak repairs and maintenance is of major concern.

Northern Illinois Gas, a gas distribution company, inaugurated their cathodic protection program as a special activity in 1945 under the direction of L. E. Nichols, corrosion engineer. Since then, the company has installed cathodic protection, mainly with magnesium anodes, to approximately 12 million feet of main, 2" to 24", and 150,000 services.

All new steel pipe installed since 1930 has been coated with 3/32" of coal tar enamel. Lately, the coal tar enamel has been reinforced with glass, and all joints and fittings are wrapped with a coal tar tape. For application of cathodic protection, specifications are issued to install insulating fittings in the new mains to isolate them from the older system or otherwise as designated by the corrosion engineer. All services are electrically isolated from foreign underground piping.

With the volume of work that has been done by the company during the expansion period since 1945, they were bound to experience and find conditions where standards and specifications were overlooked. This is especially true when adhering to the specification for isolation of services.

The axiom of "one rotten apple can spoil a barrel" holds true for a gas distribution system where one shorted service insulator renders the cathodic protection to a large area ineffective. It was also recognized that due to the human element as well as material failure, some method of checking the effectiveness of insulating features was necessary, so a battery test lite was secured to accomplish this (see fig. 1).

However, that this is not the foolproof method of testing in place an insulating union. The results of a check with a test lite will quite frequently in-

(Mr. Snedden was awarded $3,000 by Northern Illinois Gas Co. for the suggestion explained in this article. It was one of the highest suggestion awards ever presented by a utility.)

dicate a short when, in reality, it does not exist.

A sheet furnished to the fitters (meter and regulator installers) fully explains how a short can appear but not actually be present at the insulating coupling or union under test (see fig. 2). The sheet also explains the work necessary to make a complete check to confirm the effectiveness of the feature as an insulator.

From an analysis of the cathodic protection installation records (that is, readings of pipe to soil potential taken with copper sulphate half cell and a high resistance volt meter—see fig. 3) it was found that a large number of sections had pipe to soil potential readings lower than accepted.

From these readings, it was suspected that couplings or unions were shorted or omitted, as adequate protection had been installed. One or more shorted or omitted insulating union or couplings would so lower the pipe to soil potential in two or three blocks that the magnesium anode would be ineffective.

The current flow will be abnormally high, reducing the life of the magnesium anode. That the anode is used at an accelerated rate is not the only problem. The main and services between the anodes (if holidays exist) are exposed to corrosion (see fig. 4-A). If a copper water service crosses either a gas main or service in these unprotected areas, the steel gas main and service is anodic to the copper water service. The loss of ferrous metal results and leaks occur on the gas main or service.

It is quite imperative that sections with cathodic protection be completely isolated; also that the consumption of the magnesium anode be held to the designed limit or current output. Fig. 4-B is a typical isolated and protected section.

It became apparent that some method other than the battery test lite was needed to be used in suspicious areas where conditions obtained from field test data indicated irregularities. A tester was needed that would fill the following requirements:

1. Check an insulating coupling or union in *place;* that is, without removing it from the associated piping.
2. No calculating necessary, just a meter reading to show if an insulator is good or defective.
3. Simple to operate (no skilled operator necessary).
4. Little or no maintenance.
5. Light in weight.

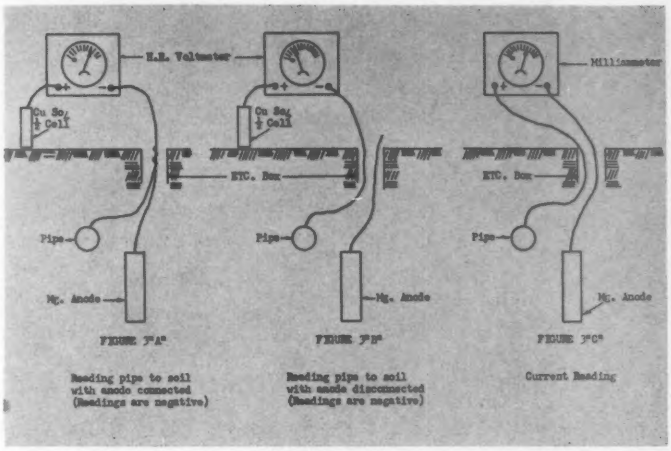
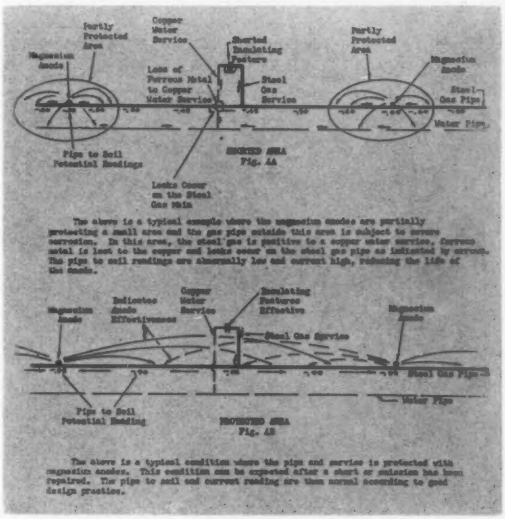

D.C. Voltmeter
Cu So4 Half Cell
Pipe
Mg. Anode
Reading pipe to soil with anode connected (Readings are negative)
Reading pipe to soil with anode disconnected (Readings are negative)
Current Reading

Figure 3



Figures 4A and 4B

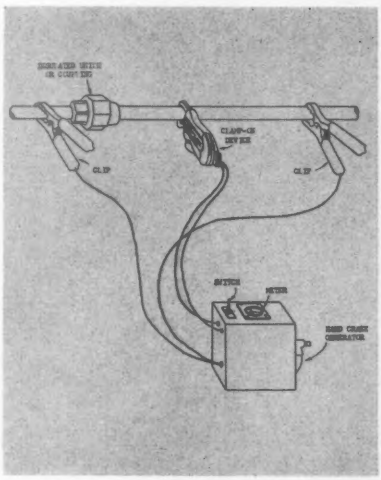


Figure 5

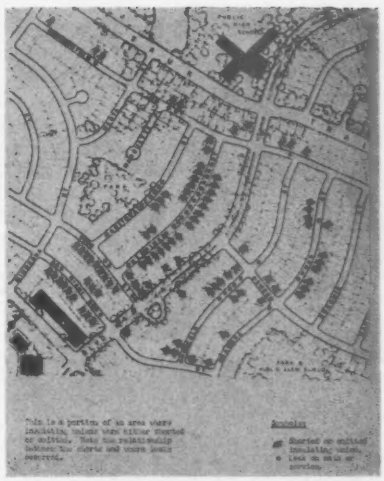


Figure 6

Mr. Snedden is testing an insulating union in place

Here's how test leads, clamp-on device makes test

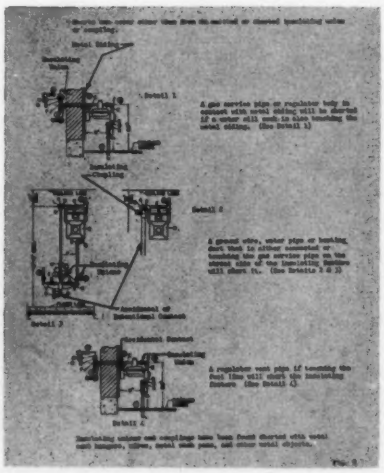


Figure 9

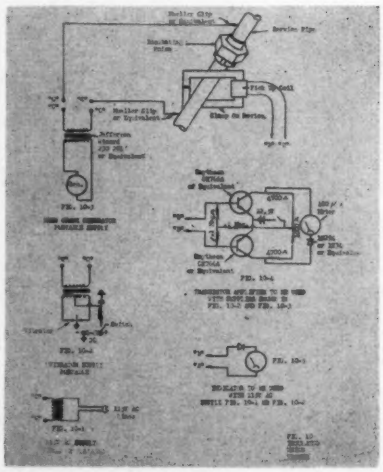


Figure 10

With this in mind, the author developed a test that would show the actual condition or effectiveness of the insulating fitting *in place* regardless of conditions existing on adjacent services; that is (shorted or omitted service insulators) or other now influencing factors (see fig. 2).

The above mentioned tester uses the principle of induction of a known impressed A.C. voltage across an insulator. If the insulator is shorted or ineffective, current will be caused to flow on the service pipe. To read this current flow, a clamp-on pick-up coil device was used in connection with a transistor current amplifier. A meter was used at the output of the amplifier as an indicator. If the insulator is good, no reading could be obtained. The amount of reading obtained on a shorted insulator is of no importance as it is used only to indicate the presence of current flow (see fig. 5).

The insulating coupling and union tester was tried out in a comparatively new area and a section of 866 services was checked where the main and services were five years old. This area had adequate magnesium anode protection for the square foot area of main and services, but leaks were widespread (see fig. 6). Shorted insulators were suspected as the pipe to soil potential was very low and current flow was high.

To have fitters check each insulator by the old method would require shutting down each customer, disconnecting the fuel line, and checking the insulator with a battery test light, then reconnecting the fuel line, turning on the gas and lighting the appliances. A two man crew might be able to check about 12 service insulators a day. At this rate, it would have taken them 72 days to check the 866 service insulators. With the tester shown in fig. 7-8 pictures, 866 service insulators were checked in eight days and 10 shorted and 65 omitted unions or couplings were found.

Two men were used in this test as a matter of convenience, but one man can easily make the test and it is not necessary that he be skilled. There are no calculations to be made from the readings taken; the meter reading is used only to indicate flow or no flow showing the condition of the insulating union or coupling.

Fig. 9 lists possible causes for shorts where accidental or deliberate contact is made at the street side of service insulator.

The three sources of power tried are shown on the left side of figure 10. The first is a step down transformer connected to 115 V A.C. line. The secondary voltage delivers 10 volts and this was applied across an insulator. A clamp-on device with a pick-up coil was fashioned from transformer laminations and arranged to be hinged.

A germanium crystal was used as a ½ wave rectifier with a D.C. 0-100 microammeter as an indicator (see fig. 10). The 115 V A.C. source was discarded because of the inconvenience of carrying a long extension cord and also having to rely on an A.C. source inside the customer's premises. It was decided this power source would be useless since a large number of our service regulators and insulating unions are installed outside the buildings; but it proved that the principle of an induced A.C. voltage on a line could be used.

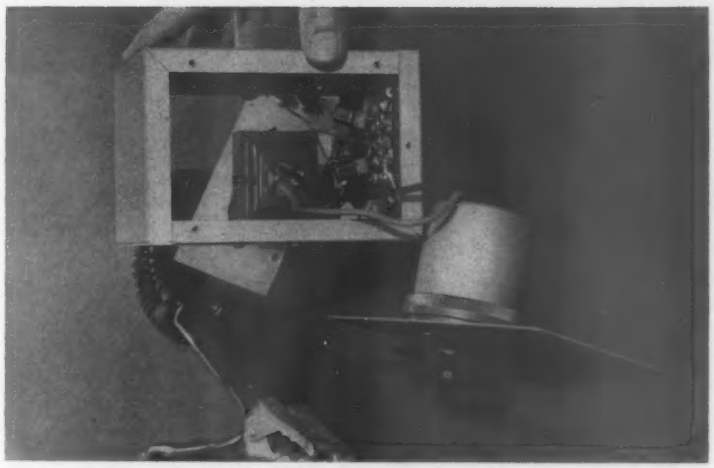
The second source of power tried was a vibrator power supply. This also worked, but the battery maintenance and weight ruled this out (fig. 10-2).

A miniature hand crank telephone generator as an A.C. source was next tried (fig. 10-3). Its output of five watts was connected to the primary of a step down transformer. The transformer secondary delivered 10 V A.C. If an insulator being tested was shorted and external shorts existed, the amount of current flowing is divided.

This is very important and the reason the test light could not be used. The loss in the clamp-on device appeared to be high and the output from the pick-up coil was in the order of five to 20 microamperes depending upon the number of external shorts. It was felt that a commercial type clamp-on device would be more efficient so several makes were tried, but results were about the same as the home-made one.

A Weston Model 749 clamp-on voltammeter or equivalent was finally used. The meter shunts and multipliers were removed as only the clamp-on and the pick-up coil were needed. About 20 microamperes output is available if only external shorts existed. When an insulating union under test was shorted and external shorts were also present, only about five microamperes could be realized. To get a reading that would be usable when the output from the clamp-on coil was five microamperes (this would be the worst condition, that is, shorted insulator and external shorts), a transistor current amplifier was used to amplify the reading (see fig. 10-4 for schematic).

The transistor circuit is straight forward using a balanced input and a balanced output loading circuit. A germanium crystal (Raytheon 1N294 or equivalent) was used as a one-half wave rectifier with a D.C. 100 microampere meter as the indicator. The transistors used in the amplifier were Raytheon CK766 or equivalent. All resistors were one-half watt rating. The battery is a 22½ volt and after four months of service (six-seven hours/day, five days per week), the voltage is still over 20 volts so the battery consumption is very low.



Tester case is shown with side panels removed. The case size is 4" x 5" x 6"

With the development of this testor, it is now economically possible to check service insulators in suspicious or shorted sections. The Northern Illinois Gas Company has 25 of these units in use and the number of tests vary from about 50 to more than 100 a day depending on the area.

It should be pointed out that this is not a cure-all for shorts encountered on gas distribution systems. It does, however, provide a fast, sure method of checking the effectiveness of a service insulating union or coupling in place, and this is where most shorts occur. There is always the possibility of an accidental contact with a foreign structure underground. An article covering this subject appeared recently in a gas publication.

It is the belief of the author that a tester built on one of the circuits mentioned will soon be on the market.

Tappan Stove produces automatic washer-dryer combination

TAPPAN STOVE CO., which has confined its appliance manufacturing to household ranges for 77 years, has announced that it is producing an automatic washer-dryer combination. The new washer-dryer is being manufactured by O'Keefe & Merritt, Tappan's wholly-owned West Coast subsidiary.

"For the time being we expect to confine distribution of the washer-dryer to the West Coast market. It is the only washer-dryer combination being manufactured west of the Rocky Mountains," stated Alan P. Tappan, president of the firm.

Addition of the laundry unit to Tappan's product line is another move toward further product diversification. In October Tappan announced its entry into the plastics field through purchase of Champion Molded Plastics, Inc.

Tappan's washer-dryer features gas drying, automatically metered water according to the type of fabric and amount of clothes, a simple control cycle for all fabrics, porcelain tub, porcelain cabinet, five rinses, a master control, a simple transmission with no complicated clutches, and elimination of vibration. The gear mechanism is covered by a five-year warranty. Other parts carry the conventional one-year guarantee.

O'Keefe & Merritt has pre-tested the washer-dryer for nearly three years, both in its laboratories and in hundreds of homes. Operation studies have indicated an annual savings of from $32 to $61 through use of a gas dryer unit.

Price of the washer-dryer will be approximately $549.95 on the West Coast. Substantial production of the unit is expected in the near future.

Air conditioning

(Continued from page 27)

selling the equipment. If it is their principal business then the market is there as big as life.

The air conditioning contractor assumes a point of prominence in any promotion plan. For he sells, merchandises, engineers, installs and maintains all types of air conditioning including highly specialized applications. We want him on our side also because he keeps a sales organization and alerts it to new product development, new merchandising approaches and new sales applications.

He employs a crew of installation and service mechanics and trains them regularly in the latest applications and techniques. He works closely with architects and general contractors and can bring to bear a valuable recommendation for gas air conditioning.

Thirty-three successful residential air conditioning members of this all important group were asked the same question: "What is your principal business?"

These contractors were considered successful in residential air conditioning even though many of them found their principal business in allied fields. In other words, they were getting their share or better of the residential air conditioning sales available in their community. Nevertheless, five times as many of these contractors have found industrial and commercial air conditioning a more lucrative business than residential air conditioning.

Potential customers

Potential customers lie in those firms already using or contemplating the use of gas for cooking, heating or for specific industrial purposes. Prime prospects are those already using gas for making steam for winter heating of processing. In such cases boilers may be relatively idle during the summer and can easily supply the energy required by the air conditioning equipment.

Initial installations of electric air conditioning equipment will be remembered. They were mostly industrial and commercial installations. This gas air conditioning field is in its infancy and just opening up. A pattern can be established but to determine this pattern it must be decided whether to approach it through the sales of individual residential units or large industrial and commercial units. It is believed the pattern should start with the large units in order to gain prestige that will in time filter down to the residential level.

Certainly there is no question that industrial and commercial air conditioning is our "bird in the hand." It has achieved a high degree of marketability because the value of this business appears well established for the people with whom we must deal.

We can offer to them a variety of equipment, with a good sales potential, low maintenance requirements and favorable first costs and operating costs.

Northern Illinois awards employee $3,000 for top suggestion

THOMAS SNEDDEN has been awarded $3,000 by Northern Illinois Gas Co. for an idea submitted through the utility's employee suggestion system. This is one of the largest single suggestion awards ever made by a utility.

The award was presented to Mr. Snedden at the gas company's annual management meeting, at which time he also received the $150 first prize for the most outstanding suggestion submitted under the company's suggestion plan during the year. The $100 second prize went to Alex Strango, and the $75 third prize went to Helmuth Becker.

Mr. Snedden, a 25-year veteran of the utility, is an engineer in the corrosion section of the gas company's engineering department in Bellwood. Encouraged by his immediate supervisor, L. E. Nichols, Mr. Snedden designed and fabricated a device which permits more rapid and economical checking of the insulation of gas services without inconveniencing customers. This device is described on pages 34-37.

Mr. Strango, an employee in the utility's operating department in Aurora, designed and fabricated a valve greaser used for greasing buried valves. The tool has made the greasing operation a faster and easier one and also has been effective in greasing valves in crooked or misaligned valve boxes. He had originally received $100 for this idea.

Mr. Becker, a member of the gas company's operating department in Bellwood, observed that the type of valve markers then in use were deteriorating very rapidly. He designed a new one that is durable, inexpensive and could be installed easily on the job. The valve markers are used to identify the gas company's valves in the valve boxes installed over the mains, generally in the parkways. He previously was awarded $50 for this idea.

GAMA urges utilities to push commercial gas sales

COOPERATION of top management of gas utility companies will be the goal of a new kind of "PEP" campaign on the part of manufacturers of hotel, restaurant and commercial gas equipment.

The established GAMA "PEP" Prize Contest, sponsored by the Hotel, Restaurant and Commercial Gas Equipment Division, is aimed at promoting the sale of commercial gas equipment by giving awards to utility companies who do outstanding selling jobs. The new campaign will seek to strengthen utility commercial sales efforts by alerting top management to the desirability of building the commercial gas load.

Although more than 90 per cent of all meals served in public eating places are cooked with gas, the commercial load is taken for granted in many areas, according to Tracy B. Madole, chairman of the GAMA division. Mr. Madole told the group in a meeting at Essex House, New York, that most commercial sales departments are under-manned, and in many instances, practically non-existent.

He said a brief study of industry figures revealed ample reason for gas companies to put forth special effort to maintain the dominance of gas in the commercial field, and also to increase its lead.

Utility revenue from commercial gas sales in 1956 totaled $471,258,000, more than 11 per cent above 1955 and more than double the 1946-1950 average, Mr. Madole said. He added that commercial use consumed only 9 per cent of the therm total, but produced 12.2 per cent of utility revenue.

"Analysis of 1956 figures shows how attractive the commercial load is," he said. "Commercial users pay 7.2 cents a therm on the average, as compared with only 2.7 cents for industrial users and 9 cents for residential customers. "And," he added, "the commercial load is a stable, year-long profit producer."

Commercial use of gas in 1956 accounted for the sale by utilities of 6,558 million therms.

A. G. A. predicts that the total will rise to 10,550 million therms by 1965.

"With commercial gas revenue running at about a half billion dollars a year now," Madole said, "intensified selling efforts by utility companies in close cooperation with dealers could boost the figure to more than three-quarters of a billion dollars annually by 1965."

Electronics

(Continued from page 14)

punch up to 90 characters in the same form, in one operation. This operation permits the automatic reentry of the punched data into the computer system in a subsequent operation.

It was also reported that a major manufacturer of electronic components will soon announce a moderately priced computer system designed for business data processing.

A report on the Harvard Research Project was made by W. J. Ott, Cincinnati Gas and Electric Co., and EEI chairman, Electronic Research Steering Committee-Harvard Project. Mr. Ott pointed out that the project will not result in the suggested design of electronic accounting equipment as originally planned. This is due to the difficulty in obtaining research personnel, and the complexity of the customer accounting problem. The project is expected to be concluded about September, 1958.

Work is progressing on the analysis and evaluation of available electronic components which may be utilized in a utility accounting application. The emphasis in this area is on a random access memory as an integral part of the system rather than magnetic tape units. No one has yet ventured in this direction. In this respect, the conclusions of the Harvard Project will probably be well ahead of the engineering techniques necessary to design equipment for economical applications.

It was pointed out that progress reports of the research project have been made available to 17 interested manufacturers of electronic data processing equipment. It is felt by the Steering Committee that the reports will encourage manufacturers to consider the design and development of equipment for the utility accounting problem.

D. W. Peterson, Minneapolis Gas Co., and chairman, A. G. A. Accounting Section, closed the meeting stating that efforts are now being made by both associations to encourage the Operating and Engineering Sections to organize groups similar to the Electronic Accounting Machine Developments Committee. Cooperative effort by such committees would coordinate the data processing requirements of utilities and facilitate the encouragement of manufacturers to design and develop computers for specific application to utility data processing problems, he said.

General Management

(Continued from page 21)

group to coordinate all Association activities in this field.

Mr. Hubbard, who became director of administration effective this month, first joined Philadelphia Gas Works in 1939. He became industrial relations director in 1948 with the added duties of assistant director of administration given to him in 1956. He has long been active in the Personnel Committee and is also chairman of the Industrial Relations Committee, Philadelphia Chamber of Commerce.

A. H. Cannon, supervisor of stores, Transcontinental Gas Pipe Line Corp., is 1958 chairman of the Purchasing and Stores Committee. Mr. Cannon succeeds Paul Hughes, who resigned as chairman shortly after the beginning of the Association year when he left Southern California Gas Co. The Purchasing and Stores Committee studies all phases of purchasing, receiving, storing and disbursement of materials, supplies and equipment. It is active in promoting the standardization of supplies and equipment, particularly packaging. It circulates information on materials handling equipment and is an educational and information center for the gas industry purchasing and stores community. A major activity is its Purchasing and Stores Conference, held each year in connection with the General Management Section Annual Conference.

Mr. Cannon was born in Norfolk, Virginia and studied accounting at William and Mary College and Virginia Military Institute. He was with the Virginia Electric and Power Company for 21 years, joining the company as storekeeper and becoming chief clerk of the purchasing and stores accounting section. He has been with Transco for the past seven years.

Ralph W. Fouse, treasurer, Brooklyn Borough Gas Co., is 1958 chairman of the Rate Committee, which conducts studies and research related to gas company rate design and administration. The impact of rates on load growth is studied and the committee follows with interest other specific activities related to rates, such as long-range weather trends and demand-commodity allocations in the sales of pipeline gas. The Rate Committee sponsors the publication of A. G. A. Rate Service.

Mr. Fouse joined Brooklyn Borough Gas Co. in 1951 after serving as assistant to the rate engineer with Consolidated Edison Co. of N. Y., Inc. He was elected vice-president in 1953 and became vice-president and treasurer in 1957. Mr. Fouse was graduated from Pennsylvania State University with a degree in electrical engineering. He has long been active on A. G. A. committees and was chairman of the Subcommittee on Gas Industry Statistics in 1951.

While all of the Section's standing committees set up subcommittees or project groups to carry out specific tasks, two of the Section's subcommittees stand apart because of their scope and continuing activity. One of these, the Subcommittee on Gas Industry Statistics, is under the sponsorship of the Committee on Economics. Its chairman is Neander W. Wade, director of accounting and business administration for the Memphis Light, Gas and Water Division. The subcommittee reviews the statistical activities of the A. G. A. Bureau of Statistics and assists the Association in other statistical activities.

Mr. Wade was first employed by that city's Water Commission in 1922. A year later he was put in charge of general accounting and in 1929 was promoted to auditor. Since 1935 he has been secretary to the Board of Commissioners and functions as its treasurer and financial officer, in addition to his duties with Memphis Light, Gas and Water.

Gifford R. Beal, claims agent and associate tax and insurance agent, Central Hudson Gas and Electric Corp., is chairman of the Claims Agents Subcommittee, a relatively new group sponsored by the Insurance Committee. The scope of the Claims Agents Subcommittee authorizes it to study and survey all matters relating to claims, their prevention and settlement. The group is at present circulating a questionnaire to determine the organization and procedures of gas utility claims departments. Another current project is a study of ways to prevent damages caused by outside contractors.

Mr. Beal has spent his entire career with Central Hudson. He joined the company's operating department 15 years ago and progressed through various levels of supervision to office manager of the engineering division. He was appointed to his present post in 1952.

Industry news

General management program to be varied

Marvin Chandler

Martin A. Elliott

AN EXPERT VIEWS the changing gas industry and sees its implied manpower demands. A scientist explores the industry's long-range prospects and suggests what basic research can accomplish. An economist sounds the economic shoals ahead and charts a course for the coming months.

These are a few of the highlights of the program being prepared for the General Management Section's annual conference, to be held at the Hotel Shoreham, Washington, D. C., March 31-April 2.

The Arrangements Committee, headed by Marvin Chandler, Section vice-chairman and president of Northern Illinois Gas Co., has invited well-known speakers from both outside and within the gas industry who promise to provide a stimulating and rewarding three-day meeting.

Dr. Eli Ginzberg of Columbia University's Conservation of Human Resources group, is the expert on manpower. Dr. Martin A. Elliott, director of the Institute of Gas Technology, will explore the gas industry's long-range prospects, giving a decisive answer to those who would write off the gas industry with the advent of atomic power. Dr. J. Philip Wernette of the University of Michigan's School of Business Administration, will present the economic outlook.

Other general sessions speakers will discuss topics of general management interest. William Parker, Ketchum, MacLeod, and Grove, will show how gas utilities are using marketing research as a management tool.

The financial picture, including the impact of higher money costs, will be related directly to the gas industry by L. S. Reis, president, Reis & Chandler, Inc. What scientific inventory control can mean to a gas company will be discussed by W. Evert Welch, director of purchasing, Aeronautical Division, Minneapolis-Honeywell.

The opening luncheon on March 31 will be presided over by Robert W. Otto, president, A. G. A., and chairman of the board, Laclede Gas Co. C. S. Stackpole, A. G. A. managing director, will be the principal speaker.

The final luncheon on April 2 will hear a behind-the-scenes report on Washington from Richard Harkness, noted television commentator.

In addition to the general sessions, the afternoons will be devoted to open committee meetings. Among committees planning to meet are the Accident Prevention, Financial Management, Insurance, Personnel, and Rate. The Purchasing & Stores Committee will hold its own annual conference during the three afternoons. All these committee meetings are open to interested observers, and a number of them will have programs of wide interest.

The conference dates, Mr. Chandler notes, fall during a most desirable time to visit Washington. Delegates are encouraged to bring their wives and families. A program for the ladies is being arranged.

Early hotel reservations are recommended. Requests may be directed to Philip Hollywood, Hotel Shoreham, Washington 8, D. C., or the Secretary, General Management Section, A. G. A., 420 Lexington Ave., New York 17, N. Y.

Industry employee accident experience continues to improve

EMPLOYEE ACCIDENT EXPERIENCE IN THE GAS INDUSTRY DURING FIRST NINE MONTHS OF 1957

	1956	1957 First Quarter	1957 Second Quarter	1957 Third Quarter	1957 First Three Quarters
Number of reporting companies	407	26	26	26	26
Average number of active employees	189,287	48,574	48,190	48,943	48,569
Number of injuries					
Fatality	23	0	0	0	0
Permanent total disability	3	0	0	0	0
Permanent partial disability	89	4	4	5	13
Temporary total disability	3,212	193	179	147	519
Total	3,327	197	183	152	532
Days charged					
Fatality	138,000	0	0	0	0
Permanent total disability	18,000	0	0	0	0
Permanent partial disability	43,073	440	710	674	1,824
Temporary total disability	50,820	2,617	2,538	2,532	7,687
Total	249,893	3,057	3,248	3,206	9,511
Frequency rate	8.68	8.07	7.46	6.11	7.21
Severity rate	652	125	132	129	129
Vehicle accident statistics					
Average number of employees	146,310	34,512	34,751	34,947	34,736
Number of vehicles	36,861	7,906	7,978	8,055	7,980
Vehicle miles travelled (000)	434,116	23,628	23,066	23,773	70,467
Number of reportable accidents	6,304	449	381	353	1,183
Number of personal injuries	141	13	9	9	31
Accidents per 100,000 miles travelled	1.45	1.90	1.65	1.48	1.68

THIS YEAR, for the first time, the Accident Prevention Committee of the American Gas Association has instituted a sampling program in an attempt to determine, on a quarterly basis, the employee accident experience trend of the industry.

A sample group of gas utility and pipeline companies is leading the industry to a new high-level mark in safety control, if quarterly reports prove to be a barometer.

Twenty-six companies representing about 24.2 per cent of industry employees report that no fatalities occurred during the first nine months of 1957, and for that period show an average accident frequency rate of 7.21 disabling injuries per million man-hours.

The third quarter frequency rate of 6.11 contrasts sharply with the 8.07 and 7.46 reported by these same 26 companies for the first and second quarters respectively.

For the third quarter, data computed from this same group of companies discloses a severity rate of 129 days charged to disabling injuries per million man-hours worked. No permanent disability injuries have been reported for any quarter of 1957.

Sixteen companies of this composite group, representing about 17.3 per cent of the industry's motor vehicles filed third quarter reports that showed the frequency rate of motor vehicle accidents was 1.48 per 100,000 miles traveled. For the cumulative nine-month period, company records show an accident rate of 1.68, which is a relatively higher figure than the 1.45 indicated in the 1956 reports of the entire gas industry.

Law of Washington Natural named professional driver of year

IRVING LAW, senior service man for Washington Natural Gas Co., Seattle, was recently named "Professional Driver of the Year" by the Seattle-King County chapter of the National Safety Council.

Mr. Law received the safety award for 41 years of driving without an accident. Actually, he has driven 51 years without an accident, 41 of them as a professional.

Mr. Law is considered a candidate for national honors, and is assumed to be the gas industry's champion driver. National Safety Council officials were astonished when his record was discovered. "It was not luck that built this record," said Wayne Meek, National Safety Council commercial chairman. "This man worked at being a safe, defensive driver."

Mr. Law first went to work for Seattle Lighting Co. in 1906. In photographs showing him with the award, he is seated aboard a rose-drawn vehicle very similar to the Old Seattle Lighting wagon he first drove when he joined the company.

In driver's seat of wagon is Irving Law, gas industry's champion driver. With him are (l.) Wayne Meek, National Safety Council, and Charles M. Sturkey, president of Washington Natural Gas Co.

U. S. Chamber of Commerce aircade to visit 12 major cities

A PREVIEW of the forthcoming Congressional battles over major issues affecting business will be carried to every section of the nation by the 1958 aircade of the U. S. Chamber of Commerce. The aircade will visit 12 cities during February in a second major effort to link national issues with community well-being.

President Philip M. Talbott will lead the National Chamber's team and make the keynote address.

Last year about 8,000 businessmen participated in these Congressional Issue Clinics and, through questions, brought out their own stake in the issues. Results were obvious in the increased Congressional concern for business opinion. Businessmen played a leading part in such successful drives as those for government economy and against federal intervention in the schools.

Cities on the 1958 aircade schedule include Charlotte, N. C., Feb. 10; Boston, Feb. 12; New York City, Feb. 13; Cleveland, Feb. 14; Milwaukee, Feb. 17; Omaha, Feb. 18; Denver, Feb. 19; Portland, Ore., Feb. 21; Phoenix, Ariz., Feb. 24; Long Beach, Calif, Feb. 25; New Orleans, Feb. 27; and Jacksonville, Fla., Feb. 28.

Clinic moderator will be Arch N. Booth, the National Chamber's executive vice-president. National Chamber panelists will be Clarence R. Miles, manager of the Chamber's legislative department; Dr. Emerson P. Schmidt, director of economic research for the Chamber, and Felix Morley, a *Nation's Business* columnist.

The panelists will discuss the economic impact of proposals dealing with taxes, tariffs, unions, the budget and other issues Congress must face following its resumption January 7. They will include background, inside information, and ways in which businessmen can improve the effectiveness of their Congressional action.

Panels of local business leaders will have a major role in each of the 12 clinics. They will assure guidance of the discussion toward the specific interests of the audience.

Manufacturers announce products, promotions

PRODUCTS

● Latest addition to Tamco Corp.'s Clipper line of gas-fired forced air furnaces are the new Counterflow and Upflow models, in sizes rated from 82,500 Btu to 160,000 Btu. Both models feature 15" diameter blowers for quieter operation, as well as multi-stream heat exchangers, self-cleaning slotted cast iron burners, and all-metal construction with 20-gauge steel casing.

PROMOTIONS

● To stimulate interest in automatic top burner heat control, Robertshaw-Fulton's Robertshaw Thermostat division is running a contest for retail gas range salespeople employed by utilities and dealers. Contest entry blanks appear in Robertshaw's January and February advertising in dealer media, and in thousands of brochures distributed to gas utilities and appliance dealers. Six sales features of the automatic burner are listed on entry blanks. Those entering must number them in order of importance to the salesperson as a selling feature, and describe favorite methods of demonstrating ranges equipped with the Robertshaw burner. Deadline is Feb. 28. Prizes are five completely equipped cars with a total value of over $20,000. Cooperating in the advance promotion of the contest are the American Gas Association and the LP-Gas Association.

● Norge announces the publication of a brochure describing the features of its gas ranges, and one describing the features of its gas dryers. Both attractive brochures for gas utilities are replete with pictures showing special details of these Norge appliances.

● "The Surface Story" is the title of a new 28-page brochure issued by Surface Combustion Corp. This three-color booklet describes all activities in which this company is engaged.

● Ruud is distributing a newly revised commercial catalogue that describes the firm's complete line of commercial gas water heaters. Data on application, construction specifications, controls, hot water deliveries, and space requirements are given on 17 models in various use approval classifications.

Suggestion award

J. J. Hedrick (l.), Peoples Gas president, presents $900 check to Guy Howard for his suggestion of a new method for reviewing certain applications for gas service. This is the fourth largest amount ever given under Peoples' suggestion system, and the second for Mr. Howard

Union Gas to acquire Dominion Natural's Ontario properties

UNION GAS CO. of Canada, Ltd., will acquire all the natural gas production, transmission, and distribution properties now operated by Dominion Natural Gas Co. Ltd., in Ontario. A joint announcement of the agreement has been made by David P. Rogers, Union Gas president, and John R. Reeves, Dominion Natural president.

At the same time, Earle S. Howard, vice-president and general manager of Provincial Gas Co., Ltd., announced that by agreement with Union Gas, Provincial Gas will acquire the portion of Dominion Natural's properties situated in the counties of Lincoln and Welland in the Niagara peninsula.

The principal cities and towns now served by Dominion Natural are Kingsville, Leamington, St. Thomas, Woodstock, Ingersoll, Paris, Brantford, Galt, Preston, Hespeler, Simcoe, Tillsonburg, Delhi, Dunnville, St. Catherines, and Port Colborne.

It is expected that all necessary preliminary details will be cleared in time to permit transfer of the properties on March 31.

Texas teachers see A.G.A. educational aids at state conference

TEXAS TEACHERS attending the fourth annual Conference for the Advancement of Science and Mathematics Teaching had the opportunity to see gas industry teaching aids at an exhibit sponsored by Southern Union Gas Co. The exhibit, planned with the assistance of the A. G. A. Educational Service Bureau, included two film strips, the "Science Principles" series, and other publications including *Gas and the Atom* and *All About Modern Home Laundering.*

Attendees at the conference included 457 science and mathematic teachers, most of whom taught in junior and senior high schools. The conference was sponsored by the Texas Science Teachers Association, the University of Texas, and the Texas Academy of Science.

Blue Flame Gas Association holds fourth annual convention

NEARLY 150 members of the Blue Flame Gas Association of Nebraska attended the organization's fourth annual convention Dec. 3 in Hastings, Nebr. Among the highlights of the meeting was an address by L. E. Nelson, vice-president of Kansas-Nebraska Natural Gas Co., and outgoing president of the association, who asked for even greater cooperation between LP-Gas dealers and distributors, and dealers in natural gas and gas appliances.

Mr. Nelson reviewed the results of association-sponsored sales campaigns in 1957, and said that "the association has made great strides this year in the right direction toward inducing dealers to promote the sales of gas appliances."

Norman Hahn, Omaha, president of the LP-Gas Association of Nebraska, discussed the unification of LP-Gas dealers and utility activities.

A fresh approach to selling was offered to the group by E. Carl Sorby, vice-president of the Geo. D. Roper Corp. Mr. Sorby pointed out that "the manufacturer cannot, in product alone, meet the challenge of competition. Proper merchandising and strong salesmanship is the key to holding our own in this competitive market."

Charles R. Bowen, A. G. A. promotion manager, told delegates that A. G. A. will spend $4,175,000 in national advertising in 1958. The expenditure, in support of natural gas and appliance sales, will be budgeted for the industry's national television show, "Playhouse 90," and for advertising in leading national consumer publications, in architect and builder publications, and in over 40 industrial and commercial magazines.

John Brinker, general manager of the Permaglas Division, A. O. Smith Corp., stressed the need for greater standardization of equipment.

He pointed out that this would facilitate manufacture, and thus delivery. In answer to the question "How well do you know your customers?" he said that salesmen should know and understand the needs and interests of their customers before they attempt their selling job, in order to provide those customers with the most suitable and adequate appliances.

Mrs. Hugh Mactier—Mrs. Nebraska—was also present at the meeting.

Delegates elected the following officers to direct association activities in 1958: president—William Bell, director of sales, Metropolitan Utilities District; first vice-president—C. A. Nelson, president of the Carl A. Anderson Co., and a director of Mid-America Appliance; second vice-president—Charles Smith, district manager, Nebraska Natural Gas Co.; third vice-president—Ed Gibson, Omaha, supervisor of operations, Peoples Natural Gas Co.; secretary-treasurer, L. E. Nelson.

Accepts National Safety Council award

E. C. Baumann (r.) of Public Service Electric and Gas Company of New Jersey, chairman of the A. G. A. Accident Prevention Committee, accepts on behalf of A. G. A. the National Safety Council association safety award presented by David L. Arm, manager of the Council's industrial department

Home air conditioner

CARRIER CORPORATION has announced development of a gas-fired air conditioner for use in the home. Lyle C. Harvey, senior vice-president, said the unit is designed for installation with gas heating systems, converting them to year-round operation. The cooling apparatus is located in a cabinet outside the house. It chills water which circulates through a coil in the furnace. The gas air conditioner has been tested for a full season, and will undergo further performance studies during the coming year.

Consolidate trademark

UTILITY APPLIANCE Corp. has announced that henceforth all its products will be marketed and advertised under the single name of Gaffers & Sattler. The company manufactures gas ranges, water heaters, and heating and air conditioning and ventilating equipment. The move will also affect its gas and water heater subsidiary, Mission Appliance Corp. Under the program, products made previously by the parent company and its subsidiaries and divisions will have the Gaffers & Sattler brand added without sacrificing their individual names.

Highlights of cases before the Federal Power Commission

Bureau of Statistics, American Gas Association

Certificate cases

● **American Louisiana Pipe Line Co.** has an application before the FPC seeking authority to construct and operate natural gas facilities in Louisiana in order to connect additional gas supplies from the North Holly Beach and Second Bayou fields of Cameron Parish. This project contemplates construction of 12 miles of pipeline, two purchase meters, and other appurtenant facilities at a total estimated cost of $1.5 million.

● **El Paso Natural Gas Co.** has been authorized by the FPC to construct natural gas facilities at an over-all cost of $5 million. This is a blanket endorsement by the Commission to cover a series of small installations required in attaching new supplies from independent producers, without the necessity of filing an application in every instance. In another FPC action, El Paso Natural Gas has received temporary authorization to construct and operate natural gas facilities in Texas and New Mexico at an estimated cost of $2.4 million. The authorization includes additional purification and dehydration facilities, and 4,050 additional horsepower at the McElroy-Crane plant to process an additional 16.5 million cubic feet of gas daily from the Phillips Petroleum Company, and nearly one mile of pipeline, to purchase 4 million cubic feet of gas daily from the Cabot Carbon Company.

● **Gulf Interstate Gas Co.** filed an application with the FPC seeking authorization to construct and operate nearly 13 miles of gathering loop lines in Louisiana at an approximate cost of $730,000. These proposed facilities will enable the company to take an additional 44 million cubic feet of gas daily from nearby fields.

● **Manufacturers Light and Heat Co.** has been authorized by the FPC to construct and operate natural gas facilities in Ohio and West Virginia at an estimated cost of $757,000. Approximately 14 miles of pipeline are included in the project, in part to replace about 12 miles of pipeline to be abandoned, of which about 9 miles will be retained as distribution lines.

● **Northern Natural Gas Co.** has been authorized by the FPC to construct and operate, in 1958, natural gas facilities at a cost not to exceed $5.5 million. This application is of the budget type designed to eliminate many small filings. The over-all intention is to attach new supplies of gas to the system. The authorization limits each project to $500,000.

● **Texas Eastern Transmission Corp.** received temporary authority by the FPC to construct 59 miles of 30 inch natural gas pipeline loops along its existing pipeline between Kosciusko, Miss., and Uniontown, Pa., at an estimated cost of approximately $5.9 million. Although no new customers are to be served by these facilities, the resulting sales capacity would be increased by 20 million cubic feet daily. As part of a larger project, over-all capacity of the system would be increased by 102 million cubic feet per day. This authorization does not include operation of the facilities, and is conditioned by the proviso that should the Commission deny a certificate for construction and operation of all, or any part, of these facilities, such cost shall be borne by the stockholders, and removed from both the plant investment account and the rate base.

Rate cases

● **Kansas-Colorado Utilities, Inc.** proposed annual wholesale natural gas rate increase, amounting to $145,200, or 24 per cent, has been suspended by the FPC. The Plateau Natural Gas Co., parent company and only resale customer, would be affected by the increase. In support of higher prices, a 7 per cent rate of return was requested, a return higher than any ever granted a natural gas company.

● **Natural Gas Pipeline Company of America** recently filed with the FPC a $6,440,000 or 11.4 per cent annual natural gas rate increase affecting 17 wholesale customers. At the same time, the affiliated Texas Illinois Natural Gas Pipeline Company filed for a $2,730,000, or 5.6 per cent, annual rate increase which would not only affect Natural Gas Pipeline Company of America, but also 14 other customers. Both increases, based on a 6.5 per cent rate of return and increased operating costs, would affect wholesale customers in Missouri, Illinois, Indiana, Kansas, and Wisconsin.

In another FPC action, Texas Gas Transmission Corporation has been granted authority to abandon nearly 30 miles of pipeline from Martinsville, Ind., to a point near Danville, Ind. The abandonment will discontinue service to 17 farm-tap customers of Indiana Gas and Water Co. In its application, the company stated a new 8-inch line capable of comparable service, replacing the facilities constructed in 1947 and now to be abandoned, would cost nearly twice the salvage value, or cost of removal.

SUMMARY OF INDEPENDENT GAS PRODUCER RATE FILINGS—OCTOBER 1957

	Number	Annual Amount
Tax rate increases allowed without suspension	6	$ 6,653
Other rate increases allowed without suspension	28	132,394
Rate increases suspended	165	2,652,578
Total rate increases	199	2,791,625
Tax rate decreases allowed without suspension	4	1,262
Other rate decreases allowed without suspension	—	—
Total rate decreases	4	1,262
Total rate filings	606	—
Total rate filings acted on from June 7, 1954 to Oct. 31, 1957	24,537	—
Rate increases disposed of after suspension	1	135
Amount allowed	1	135
Amount disallowed	—	—
Amount withdrawn	—	—
Rate increases suspended and pending as of Oct. 31, 1957	696	$33,433,791

Hold two-day accident prevention course

Thirty-nine supervisors from 21 New England Gas Association member companies attended the third "Accident Prevention Through Informed Supervision" course conducted in New England. This year the course was conducted at the Bancroft Hotel, Worcester, Massachusetts, on October 30 and 31

Whirlpool buys Servel gas refrigerator lines for $6.5 million

WHIRLPOOL CORP. has purchased from Servel, Inc., for cash, all facilities, including patents, property and equipment, relating to the Servel gas refrigerator and ice-maker. The announcement was made by Elisha Gray II, Whirlpool president, and Duncan C. Menzies, Servel president.

The negotiated purchase price was about $6.5 million. Servel in turn has paid Whirlpool $1.6 million to assume its contractual obligations to fulfill unexpired warranties. The purchase includes a manufacturing building of about 750,000 square feet located on about 20 acres of land in Evansville, Ind., plus an adjoining four-acre parking lot, and specialized machinery, equipment, fixtures, tools, dies, jigs and inventory. The purchase also includes all Servel patent rights relating to the gas refrigerator and automatic ice-maker.

The decision to add a line of gas refrigerators, to be marketed early in 1958 under the RCA Whirlpool brand, to the present full line of other major appliances manufactured and marketed by Whirlpool Corp., makes the company a major force in the gas appliance industry.

This decision was reached when utility companies representing the greater part of all the household gas meters in the U. S. individually expressed their intentions to promote and sell a quantity of RCA Whirlpool gas refrigerators considered sufficient, in the aggregate, to warrant production by Whirlpool.

Whirlpool is already manufacturing gas appliances comprising combination washer-dryers, dryers and ranges, and a gas water heater and a gas incinerator are being engineered.

With the proceeds from the sale, Servel now has cash on hand or equivalent and current accounts receivable totalling approximately $15 million. It is the company's intention to acquire one or more companies in a growth industry of a stable character and with a demonstrated earning capacity.

Servel still retains property in Evansville with a total floor space of more than 500,000 square feet and a book value of $1.5 million. Half of these remaining assets are expected to be sold for cash before April.

Norge, Norco, announce development of gas refrigerators

NORCO, INC., has announced production of its new line of gas refrigerators. Simultaneously, Norge Sales Corp., division of Borg-Warner Corp., has announced that it is working on a gas refrigerator.

The Norco 1958 line will consist of four models, as follows: No. 584, four cubic feet, table-top type, available March 1; No. 5865, about seven cubic feet, available March 15; No. 5895, about 10 cubic feet, available June 1; and No. 5812, about 12 cubic feet, available Sept. 1. These models are now being tested in A. G. A. Laboratories.

Prices on the first three models will be released Feb. 1, together with literature and specifications. Invitations to regional service schools the company is planning to run for servicemen will also be distributed in February.

Norge's refrigerator is in the preliminary testing stage. Availability will be contingent on thorough testing by Borg-Warner research and engineering, and by approval of A. G. A. Laboratories.

A.G.A. announces new publications issued during December

LABORATORIES

• **Research on New Designs for Range-Top Burners, Pilots, and Valves** by Patricia A. Speidel and F. G. Hammaker Jr. This publication, Research Bulletin 76, is also available from A. G. A. Laboratories; cost is $2 a copy.

NEW FREEDOM

• **How to Keep Your New Home New** by David Warren Publications. 60 cents a copy. This publication is part of a complete "Builders' Kit," which is available at $1 per kit.

PROMOTION

• **How to Run a Mrs. America Contest, 1958.** Free of charge.

RESIDENTIAL

• **Good Customer Service—A Key to Greater Sales.** Sponsored by GID Committee. 25 cents a copy.

• **Selling Gas in the New Home Market.** Sponsored by GID Committee. 25 cents a copy.

STATISTICAL

• **Monthly Bulletin of Utility Gas Sales, November, 1957.** Free.

UTILIZATION

• **Gas and Electric Service in Multiple Housing** by H. Zinder and Associates. $3 a copy for A. G. A. members, $5 a copy for non-members. See article on page 6.

Washington Gas Light wins two safety awards

C. S. Stackpole (l.) of A. G. A. presents to President E. J. Boothby of Washington Gas Light an Accident Prevention Award for the utility's achievement in reducing its accident frequency rate by over 25 per cent in 1956. Mr. Stackpole also presented the company with a Merit Award recognizing the company's million man-hours without a lost-time accident from Feb. 14 to May 12. Shown with this are Milton Askew, Safety Committee chairman, and D. E. Ryan (r.), safety engineer

Three win awards

NORTHERN ILLINOIS Gas Co. last month honored three employees whose quick thinking and prompt action saved a human life. The President's Award for the Saving of Human Life was presented to Ray Cload, Douglas Dunn, and Albert Perna. All of the three award recipients were driving home from work last April when they saw a track laborer, his clothing ablaze, running along the right-of-way of the Chicago & Great Western Railroad near Bellwood Avenue.

The men ran after the victim, caught him, threw him to the ground, tore off most of his outer clothing and smothered the remaining flames with their own jackets.

PCGA Proceedings

THE Pacific Coast Gas Association has distributed its Proceedings for 1957. The 170-page book gives the complete text of addresses delivered at the group's 1957 convention, plus lists of PCGA officers, committeemen, and members. The cumulative index therein covers Vols. 39 (1948) through 48 (1957). Copies of the Proceedings are available from PCGA at 2 Pine St., San Francisco 11, Calif.

Walker assistant to managing director, Cushman secretary at A.G.A.

H. S. Walker Jr.

Jac A. Cushman

HAROLD S. WALKER JR., secretary of the American Gas Association since last February, has been named assistant to the managing director. On Feb. 1, Jac A. Cushman, assistant director of public information, will succeed Mr. Walker as corporate secretary and convention manager.

Mr. Walker was graduated from the U. S. Military Academy at West Point in 1943, after which he served 11 years in the U. S. army until resigning in 1954 with the rank of major. In addition to a B.S. degree from West Point, he also holds an M.A. degree from Columbia University.

He saw active service in the South Pacific, Japan and Korea, receiving the Bronze Star in World War II combat, the Commendation Ribbon for his work in the Japanese occupation, and a second Bronze Star in Korea. His duties overseas included commands up to battalion level and administrative work in personnel, operations and training, communications, supply and maintenance, and intelligence and security.

He directed a repatriation center in Japan and set up and directed an interrogation center which handled 40,000 prisoners of war released by Russia from the Manchurian-Siberian area. From 1949 to 1953 he was an instructor and assistant professor of English at West Point.

From November 1954 to May 1955, Mr. Walker was associated with Lit Brothers Division, City Stores Inc., Philadelphia, as head of customer and merchandising service for home furnishings, appliances, housewares and furniture.

Mr. Cushman joined the Association early in 1947, and served as editor of the A. G. A. MONTHLY until April 1954. At that time, he was advanced to assist in the initiation and direction of the PAR Public Information Program. One of his major duties has been to work with regional and local gas groups in organizing a long-range series of public relations workshops throughout the country. Mr. Cushman was also editor of A. G. A.'s PR newsletter, "Intercom," and the author of "PR and You" and other how-to-do-it booklets.

Mr. Cushman was graduated in 1942 from Trinity College, Hartford, Conn., with a B.S. degree and English major. Following graduation, he served as assistant financial editor of the *Hartford Courant*. His activities at present include a directorship in the New York Chapter of the American Public Relations Association.

During World War II, he commanded an aircraft warning detachment in Europe and was recalled for two years during the Korean War as a captain in the Air Defense Command of the Air Force.

Personal and otherwise

A. O. Smith names 11 vice-presidents

A. O. SMITH CORP. has named 11 of its executives as new vice-presidents. Four of them will continue to function as members of the management staff, in the following areas: procurement, M. E. Morgan; engineering, W. W. Higgins; marketing, S. E. Wolkenheim; research and development, R. F. McGinn.

The two new operating vice-presidents are J. H. Brinker, who has been in charge of Permaglas consumer products and will continue in that position, and John S. Randall, who will be in charge of industrial products.

Five regional managers who for several years have represented A. O. Smith have been elected commercial vice-presidents in their respective areas.

The regional managers are: W. W. Stake, New York, Eastern region; George P. Hough, Chicago, Midwestern region; L. M. Keating, Houston, Southwestern region; Allen O. Dragge, Los Angeles, Pacific Coast region; and Walter H. Porth, Milwaukee, in charge of relations outside the U. S.

The board of directors re-elected all present officers of the company.

Four recent promotions announced by Peoples Natural Gas

PEOPLES NATURAL GAS CO., Pittsburgh, has announced the promotion of four men. All four are members of A. G. A.

Charles L. Yost, general sales manager for the past decade, has become industrial development manager. In his new assignment, Mr. Yost will aid civic groups in Peoples Natural communities in developing their industrial programs. Mr. Yost has been with the company since 1938, having started as a heating and ventilating engineer.

Richard L. Leusch succeeds Mr. Yost as general sales manager. Mr. Yost was formerly assistant sales manager of East Ohio Gas Co., a sister company. Before that he was East Ohio advertising manager. He is a member of the Domestic Advertising and Television Commercials Committees of A. G. A.

E. H. Williamson has been appointed assistant to the vice-president of operations. He has been with the utility for nearly 25 years, most recently as superintendent of production and transmission.

Richard E. DuVall, formerly superintendent of distribution, has been made general superintendent. During his 21 years with the company, he has held various posts including those of chief civil engineer, assistant superintendent of distribution, and Glenshaw manager.

Lekberg retires as NIPSCO industrial sales manager, Woodfill succeeds

CARL H. LEKBERG, Northern Indiana Public Service Co.'s manager of industrial gas sales, retired last month after 33 years with the utility. J. R. Woodfill has succeeded him.

Mr. Lekberg began his utility career in 1915 with the Commonwealth Edison Co. After service with the American Bridge Co. and the Peoples Gas Light & Coke Co., he joined NIPSCO as an industrial engineer in the company's South Bend division. Five years later he was named supervisor of industrial and commercial sales in the South Bend area.

After 11 years in South Bend, he went to Hammond in 1935 as supervisor of NIPSCO's industrial gas sales, and later was named manager of the department.

Mr. Lekberg has been particularly active in the American Gas Association. He is a charter member of A. G. A.'s "Hall of Flame," and has served as chairman of the Industrial and Commercial Gas Section and a member of the Industrial and Commercial Research Committee.

He has also been a technical adviser on A. G. A. projects.

Mr. Woodfill has been supervisor of industrial sales in the utility's Calumet division for the past four years. He started his utility career as a cadet engineer with the Public Service Co. of Colorado. After serving as a sales engineer for manufacturers in Toledo, Ohio, and Chicago, he joined NIPSCO in 1938 as a cadet engineer in Hammond. In 1949, he became supervisor of power sales in the Calumet division, and in 1953, supervisor of Calumet division industrial sales.

Robert R. Hart, Hammond district industrial power sales engineer, will succeed Mr. Woodfill as Calumet division supervisor of industrial power sales, and Ira J. Roberts, Hammond district industrial gas sales engineer, will succeed him as Calumet division supervisor of industrial gas sales.

Names Strauss administrative vice-president

W. A. Strauss

WILLIS A. STRAUSS has been named administrative vice-president of Northern Natural Gas Company. His promotion from director of the company's certificate department to the newly created position was announced last month.

In his new capacity, he will assist the president in keeping in touch with and coordinating the various operations of the company. He will continue to supervise the activities of the certificate department. In addition, he will also become a member of the company's management board.

Mr. Strauss came to Northern's engineering department in 1948 after having worked for one year as a sales engineer for the Empire Electric Company. In 1951 he was promoted and transferred to the general department as staff assistant, and the following year was made administrative assistant. He assumed the duties of director of the newly created certificate department in 1955.

He is a graduate of Iowa State College where he received a B.S. degree in general engineering in 1947.

Mr. Strauss is a member of the American Gas Association, Midwest Gas Association and Independent Natural Gas Association of America.

Himsworth secretary

WINSTON E. HIMSWORTH has been elected secretary of The Brooklyn (N. Y.) Union Gas Co. Mr. Himsworth, since 1952 assistant vice-president, will succeed Richard B. Loomis. Mr. Loomis becomes president of South Brooklyn Savings Bank on Jan. 1. Mr. Himsworth joined Brooklyn Union in 1934 as a cadet engineer immediately following his graduation from Lehigh University as an industrial engineer. In his early career with the company he was assigned to the new business department. In 1940 he moved to the personnel department, where he was educational director, and then industrial relations director. In 1948 he became manager of the personnel department. He has been active on personnel and advertising committees of the American Gas Association.

Abbott, Bohacz, take on utilization duties at A.G.A.

THE American Gas Association has named two men to its staff in utilization engineering capacities.

Seward Abbott, with Servel for the past 31 years, has joined A. G. A.'s Washington Office as a utilization engineer. In this newly created post in the Washington Office, he will provide information and advisory services for federal departments and bureaus. Mr. Abbott joined Servel immediately after his graduation from the Stevens Institute of Technology. For nine years he was a Servel district manager in Washington, and for over 20 he was a regional manager, first in Dallas and later in San Francisco.

Walter H. Bohacz has joined the Utilization Bureau at Headquarters as an assistant utilization engineer. He was most recently with Burns and Roe, New York construction engineering firm, and has been associated with several major companies in the instrumentation, construction, and manufacturing fields since completing service in the Navy. He attended CCNY and NYU.

Names in the news—a roundup of promotions and appointments

UTILITY

Wesley A. Cook has been elected a director of Portland Gas & Coke Co. Mr. Cook, who joined the utility in 1946, rose to assistant to the president in 1949 and vice-president in 1955.

Clifford A. Brandt, closely identified with utility rate and regulatory matters for the past 30 years, has been appointed executive staff engineer of Houston Natural Gas Corp. Mr. Brandt has been assistant vice-president of H. Zinder & Associates, utility consultants.

New purchasing agent at Southern Indiana Gas and Electric Co. is **W. B. Welge.** He replaces **F. E. Thompson,** who retired after 35 years as purchasing agent for this utility.

Peoples Gas Light & Coke Co. announces the appointment of two men as senior sales engineers—**Lawrence O'Connor** in the domestic sales department, and **Robert H. Schifferdecker** in the industrial sales department. Mr. O'Connor, who joined Peoples in 1931, will be in charge of the heating clinic in the showroom of the building. Mr. Schifferdecker, with Peoples since 1948, has held the post of industrial sales engineer since 1950.

Public Service Electric and Gas Co. of New Jersey announces the following organizational changes in its gas department. **H. Whitcomb Nicolson** has been promoted from general superintendent of gas distribution to assistant to the vice-president in charge of gas operation. **Charles R. Dewhurst** has been promoted from industrial relations manager to general superintendent of gas distribution. **Carroll D. James** has been promoted from assistant industrial relations manager to industrial relations manager. **L. Martin Harris** has been promoted from distribution staff engineer to manager of methods.

R. Frank Nowlin, engineer in the Texas distribution department of United Gas Corp., has been promoted and placed in charge of operations in the Houston division. He will be in charge of gas measurement, leakage reduction, and other operations in Houston. **Ross Walker,** manager of the company's Mississippi Coast district, has been promoted to assistant manager of the company's Beaumont division.

L. E. Libby has been retained by Oklahoma Natural Gas Co. as sales counsellor. He will work with distributors, dealers, and employees in developing sales training programs. Mr. Libby was associated for 23 years with Servel.

Francis A. Sullivan Jr., a seven-year employee with Rochester Gas & Electric Corp., has been promoted from accountant in the accounting control department to assistant superintendent of the general accounting department.

New York State Natural Gas Corp. has named **Donald T. Sherrill** personnel and labor relations director, and **William G. Heinrich** salary and benefits administrator.

PIPELINE

The appointment of **James C. Saks** as sales manager of Trans-Canada Pipe Lines Ltd. has been announced. Mr. Saks joined Trans-Canada in 1954 as assistant to the president and assistant secretary. He was appointed manager of gas supply in the Calgary office in 1955.

New administrative manager of Texas Eastern Gas Corp.'s Big Little Inch division is **W. Earnest Graham. Jamie T. Irvine** has been named general sales manager for the same division.

MANUFACTURER

Charles C. Martin has been appointed manager of advertising and sales promotion for the Holly-General Co. His offices will be in Pasadena.

Marion R. Davis recently retired as regional manager of Maytag's Kansas City branch, after 34 years of service with the company.

Named to the newly created post of manager of production planning at Temco is **James E. Bradford.** His new duties include responsibility for methods and standards, along with planning, scheduling, and all other functions of the production engineering group.

Norge has appointed two division gas utility managers: **George S. Andrews** has been named Western division manager, and **Robert L. Brookman** has been appointed Midwestern division manager.

Pat H. Luckett, sales manager of Rockwell Manufacturing Co.'s instrument division, has been promoted to assistant product manager—gas products for the company's meter and valve division.

OTHER

Franklin H. Tobey Jr. has resigned as an associate editor of *Public Utilities Fortnightly* to become director of publicity and public relations for Wilson E. Hamilton and Associates, Inc., organization consultants.

New foreign petroleum coordinator in the Department of the Interior's Office of Oil and Gas is **Charles A. Nichols Jr.** He succeeds **Ralph S. Fowler,** who is now petroleum consultant to the director of the Office of Defense Mobilization.

Munroe, past president of A.G.A., dies at age 83

CHARLES A. MUNROE, retired public utilities executive and financier, died Dec. 28 at his home in the Bahamas. He was 83 years old. Mr. Munroe, who in recent years had lived also on the French Riviera, had been retired from active business since 1939.

Mr. Munroe was graduated from Middlebury (Vt.) College in 1896, and after studying at Northwestern University Law School, practiced law in Chicago. He became identified with water power development on the Des Plaines (Ill.) River, and in 1906 became manager of the Economy Light and Power Co. in Joliet, Ill. Later he joined the Illinois Valley Gas and Electric Co., and served as vice-president of the Public Service Co. of Northern Illinois.

For five years he was vice-president of the Peoples Gas Light & Coke Co. During this period, in 1921, he served as president of the American Gas Association. In 1924 he acquired control of the Laclede Gas Light Co. and was chairman of its board until 1927.

Mr. Munroe then became president of the W. A. Harriman Securities Corp., the Northern Utilities Co., the North Central Gas Co., and the Columbia Oil and Gasoline Co. He was a member of the Executive Committee of Columbia Gas and Electric Co.

Surviving Mr. Munroe are his widow, Mrs. Ann Ditchburn Munroe; two daughters, and six grandchildren.

OBITUARY

J. C. Hamilton

66, president of Arkansas Louisiana Gas Co. and subsidiary companies, died Dec. 19.

Mr. Hamilton, who was elected president of the company in 1955, had been an officer since 1946, when he first was elected a vice-president. Prior to that he had served in several executive capacities, including management of the rate and regulatory department. He was regarded as an authority on gas rates.

He was president also of Arkla Air Conditioning Corp., formed in 1957 after Arkansas Louisiana Gas Co. purchased the year-round air conditioning division of Servel. He was president, too, of Arkansas Cement Corp. He also was a director of these firms and of ALG. Both are ALG subsidiaries.

Mr. Hamilton's business career covered virtually the modern history of the natural gas industry. He joined a predecessor company of ALG in 1919.

He is survived by his widow, a son, a daughter, two brothers, and five grandchildren.

A. V. S. Lindsley

retired sales vice-president of The Connecticut Light and Power Co., died recently after a long illness.

A graduate of the Cornell School of Engineering, Mr. Lindsley joined CL&P in 1919. In 1921 he was made sales manager for the company, and in 1939 was elected vice-president in charge of sales. He retired in 1952.

He played a vital role in the development of the dual service gas range in the early 1930's, a period when he was chairman of the Kitchen Heating Committee of the New England Gas Association.

He was very active in national and regional utility organizations. He was a member of the American Gas Association for over 20 years.

He is survived by his widow, a daughter, and four grandchildren.

B. F. Pickard

board chairman of Interstate Power Company, died recently. Mr. Pickard held the chairman post since 1953, and before that was president of the utility.

Previous to joining Interstate Power, he was associated with Ruud, Southern Gas & Power Corp., United Utilities and Service Corp., Laclede Gas Light Co., and Central States Power & Light Corp.

Mr. Pickard had been a member of the American Gas Association since 1925.

F. E. Richardson

foremost pipeline and oil refinery consulting engineer, died Dec. 3.

After graduation from Ohio Wesleyan University, Mr. Richardson spent four years as a consulting engineeer at Clarksburg, W. Va., doing mining, municipal, and oil field engineering. From 1916 to 1922, he designed and constructed gasoline plants in the mid-continent field. During 1922-23 he was assistant superintendent and designing engineer on the construction of the Spavinaw Dam in northeast Oklahoma. When the Great Lakes Pipe Line Company was organized to construct gasoline lines from Oklahoma to the north central states, he joined that company as chief engineer for design, construction, and operation of the system. In 1941 Mr. Richardson became affiliated with the Pan American Companies as manager of the Pan American Pipe Line Co. and assistant manager of the Pan American Production Company and Pan American Gas Company. In 1944 he went to Kansas City as an independent consultant.

During World War II Mr. Richardson participated in the design of the "Big Inch" and the "Little Inch" pipelines with War Emergency Pipe Lines, Inc., on loan from Pan American. He also participated in the design of pipelines in the China-Burma-India theatre and was a member of the Engineering Advisory Committee for P.A.W., which covered all the crude and products pipelines in the various theatres of war.

CONVENTION CALENDAR

1958

APRIL

8-10 •A. G. A. Sales Conference on Industrial and Commercial Gas, Hotel Schroeder, Milwaukee, Wis.

14-16 •National Conference of Electric and Gas Utility Accountants, Shamrock-Hilton Hotel, Houston, Texas.

17-18 •Indiana Gas Association, Annual Convention, French Lick-Sheraton Hotel, French Lick, Ind.

21-23 •A. G. A. Research and Utilization Conference, Hotel Carter, Cleveland, Ohio.

28-30 •Southern Gas Association, Annual Convention, Dallas, Texas.

MAY

4-7 •LPGA Annual Meeting, Conrad Hilton Hotel, Chicago, Ill.

4-7 •Air Conditioning and Refrigeration Institute, Annual Meeting, The Homestead, Hot Springs, Va.

5-9 •Distribution, Production and Transmission Conference, Roosevelt and Commodore Hotels, New York City.

5-9 •National Restaurant Association Convention and Exposition, Navy Pier, Chicago, Ill. (A. G. A. will exhibit).

6-7 •PCGA Technical Section Transmission Conference, San Diego, Calif.

12-13 •A. G. A. Eastern Gas Sales Conference, Park Sheraton Hotel, New York City.

18-21 •Industrial Heating Equipment Association, The Homestead, Hot Springs, Va.

19-21 •A. G. A. Midwestern Gas Sales Conference, Edgewater Beach Hotel, Chicago, Ill.

19-23 •Annual Foundry Congress and Show, Cleveland, Ohio (A. G. A. will exhibit).

20-21 •PCGA Technical Section Customer Service Conference, Seattle, Wash.

20-22 •Pennsylvania Gas Association, Annual Meeting, Pocono Manor Inn, Pocono Manor, Pa.

JUNE

3-4 •A. G. A.-PCGA Research and Utilization Conference, Los Angeles, Calif.

24-27 •Canadian Gas Association, Annual Meeting, Manoir Richelieu Hotel, Murray Bay, Que., Can.

Personnel service

SERVICES OFFERED

Pakistani wishes position as apprentice to learn of United States natural gas company operations. Educated at the University of Punjab with courses in Gas Technology. Westminster Technical College, London. Available after June 1958. **1884.**

General Sales Manager—Experienced in retail dealer, distributor and manufacturers sales management. 12 years with outstanding merchandising utility. Products sold—heating, cooling, water heaters, ranges, refrigerators, residential and commercial. **1887.**

ME Graduate with 8 years' management experience covering all phases of manufactured and natural gas operations, desires permanent position with live-wire, progressive company where advancement opportunity exists. Can competently manage medium sized company or head up department or branch of larger company. Outstanding personal qualifications and excellent relations with superiors, subordinates and the public. Will relocate. **1888.**

Factory Sales Representative—with over 20 years experience, seeks new connection with a reputable manufacturer, promoting and merchandising domestic gas appliances, preferably in the New York-New Jersey area. Top notch performance and references. **1889.**

Public Relations Director—broad experience in all phases of public relations. Sound approach to community and customer relations. Publicity materials with a purpose. Would relocate. **1890.**

Training Director—Sales and Personnel—practical background with thorough understanding of motivation, group and individual training, follow through. Experienced in recruitment and employment methods. Would be willing to relocate. **1891.**

Industrial Gas Engineer—considering change, location immaterial. Presently employed as project engineer in design, development, and promotion of non-patent process to produce 3-5 micron wavelength infra-red from natural, manufactured, or propane gases. Has recently supplied this equipment to one of largest U.S. automobile manufacturers to cure synthetic enameled parts in 2-2½ minutes. Only progressive firms offering substantial remuneration, contract, and potential advancement to executive position need reply. Interview in NYC. **1892.**

Executive Engineer—professional license with 15 years experience: A. G. A. Laboratory, Division Management consisting of the design, development and production of nationally sold lines of heating equipment and consulting engineering. **1894.**

Systems—Asst. Treasurer—Controller—Manager—25 years utility operation at all levels including consulting and public accounting. Complete system, design and installation of IBM systems, post card billing, rate analyses, centralized billing, mechanical cash posting and air-tight controls. Form design all procedures and flow charts for customers and general accounting including stores. Original cost, CPR, all statements. Excellent references; married; 1 child; BS Accounting; prefer Northeast. (45). **1895.**

Canadian Manufacturers' Agent—with over 25 years of sales and managerial experience in the Canadian gas appliance manufacturing field, wishes to contact component parts or major appliances manufacturers interested in establishing or improving their present operations in Canada. Also interested in gas equipment. **1896.**

Sales—30 years' experience including 15 years' direct plumber-dealer and merchandising utility sales with one company in New York Metropolitan area and 15 years in supervising sales covering northeast area for company recently in automatic heater and tank business. Prefer New York as home base, will travel. **1897.**

Manager—in Midwest or Northwest area, for small and medium size gas operation, or department head for large gas operation. Experience covers eight years in top management and 14 years of supervision in production, distribution and service with manufactured, mixed, and natural gases. **1898.**

Gas Operating Engineer—ten years' experience with working knowledge of gas transmission, distribution and utilization; familiar with accounting, rates, appliance sales. Also familiar with electric operation. Desire position as manager or similar position requiring operating experience. (37) **1899.**

Citizen of the Netherlands wishes to immigrate to the United States. 13 years' experience in the gas industry. After service with the Dutch army as a volunteer, began his gas industry career at the gas distribution deparment of the municipal energy works at Rotterdam. He was charged with laying of services, gas meter installation, installation and repair of gas appliances, regulators and governors. Between 1950 to the present, he held the following positions: foreman gas fitter; assistant supervisor; in charge of drawings as service card-index, industrial appliances and planning. As technician of the fitting section, industrial gas service, planning and controlling the execution of new projects. Married, 2 children. (33) **1900.**

Manager-Purchasing Agent—experience in all phases of the gas industry, manufactured, mixed, propane-air, natural. And have been instrumental in the starting of propane operations in domestic, commercial and industrial levels in conjunction with the utility operations. **1901.**

Mechanical Engineer—professional license, 11 years' experience; design and construction of water, oil and natural gas plants, compressor stations and pipelines, steam and Diesel power, heating, air conditioning and refrigeration facilities, metallurgical and chemical plants. Desire position at project level for economic analysis and feasibility studies, design and plant betterment. **1902.**

Economist—need only to write dissertation for Ph.D. in Public Utility Economics. 5 years' experience with purchasing department of a major oil company. Veteran W.W.II. Will relocate. Preference small city in Northeast or South. Available immediately. (30) **1903.**

Secretary (Woman)—to president of gas utility desires change. Fully conversant with company procedure. Interview New York City. **1904.**

POSITIONS OPEN

Sales Engineer—excellent opportunity with expanding specialty manufacturer of cast iron gas boilers for aggressive man with background in the wet-heat field, to call on jobbers, contractors, architects, builders, utilities. Able to organize sales meetings and render technical field service. Willing to travel and relocate. Applications held in strict confidence. **0852.**

Compressor Station Engineer—large gas utility in Great Lakes area needs graduate engineer, preferably under 40, with some compressor station experience. Assistant to superintendent in design field engineering and other problems related to maintenance and operation of stations. Liberal benefits. Salary in line with education and experience. State personal and educational qualifications. **0853.**

Gas Engineer—outstanding opportunity for exceptional young gas engineers with interest in management and sales. Expanding staff of national firm of business and engineering consultants has room for ambitious men with general gas utility experience. Men selected will receive diversified consulting assignments, particularly in the fields of sales and market analysis, under close personal supervision of experts in the field. This is an opportunity to grow in a friendly atmosphere where initiative is encouraged and rewarded. **0854.**

Mechanical Engineer—research and education facility on technical institute campus in midwest needs young engineer with supervisory ability for expanding program in applied research on gas utility problems. Excellent opportunity for professional development, including broad industry contacts, part-time graduate study and part-time teaching if interested. Salary commensurate with experience and ability. **0855.**

Gas Measurements Engineer—extraordinary opening for an able man interested in the measurement and dispatch of natural gas for industry. An opportunity to join a major new Canadian utility while in early development. Graduate engineer or equivalent. Some experience in large volume gas measurement essential. Address application in writing to: Northern Ontario Natural Gas Co., Ltd., 111 University Ave., Toronto, Ontario. **0856.**

Young Engineers—Philadelphia utility with divisions in Eastern Pennsylvania can use three recent engineering graduates. Will be given groundwork in all departments of company before regular assignment. In reply please state age, education, experience—if any. **0857.**

Engineers—Philadelphia utility can use two engineers experienced in gas distribution. Please state age, education, experience and other background information in replying. **0858.**

Prefab erected as part of BIE day

This modern kitchen is part of an all-gas home erected in one day as part of a demonstration for visitors during Toledo's annual Business-Industry-Education Day. Ohio Fuel Gas cooperated in the promotion of Blue Flame Village, the Toledo area where this prefabricated home was erected

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